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THE
CINCINNATI
MEDICAL NEWS.

EDITED BY

J. A. THACKER, A. M., M. D.

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Published by Dr. J. A. Thacker.

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Vomica.

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Phosphorus, Quinine and Digitalis
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Many drugs, among which we may note *roots, gums, emetics, capsicum, etc.*, which—either from the more immediate effect to be produced, or from some special action to be desired—the physician proposes to administer in the *crude or powdered* state, in preference to any form of preparation, are practically debarred from use in certain cases on account of their physical properties (appearance, odor, taste), and the difficulty experienced in swallowing them. It is frequently advisable to conceal from the patient the nature or identity of the drug, because of some idiosyncrasy, or of his imagination with regard to its peculiar effects on his system.

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Therapeutical Effect.—The gelatine having been dissolved, the remedy is brought into contact with the surface of the stomach *under the most favorable circumstances*, and, if the case will permit, will soon be assimilated, and the desired results achieved.

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Send stamps for a sample.

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DETROIT, MICH.

THE CINCINNATI MEDICAL NEWS.

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{ VOL. IX. No. 5.
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ORIGINAL CONTRIBUTIONS.

Hair Turning Gray.

[From the German of Dr. Pincus.]

BY L. R. PEET, YALLAHA, FLORIDA.

GENERAL observation teaches us that at a certain period of the development of the human being the hair becomes gray. When the relations are perfectly normal the appearance of grayness is preceded by other changes, indicative of age, thus showing it to be a natural stage of the process of maturing, which is in complete harmony with everything else. Moreover, this striking alteration of hue is not looked upon as an evil. It is, on the contrary, considered a thing which, other features being equal, calls for respect—sometimes excites even admiration.

But such normal development is seldom met with. Accompanying the grayness there is usually another change, which does not awaken much reverential emotion. The hair loses in length and thickness; and this takes place in two ways: either one hair in each group fails to reach its natural length and body, or all the hairs of the group suffer, yet on only a small portion of the scalp. In the first case there follows a regular thinning out; in the second a little tonsure appears. Sometimes the two forms are simultaneous.

If the decay of the hair comes with the grayness, and that only in old age, it may be considered normal, like the grayness itself. The aged have no demand for medical treatment of the hair. Indeed, such treatment would

be wholly void of result. If, however, this condition come soon after the fortieth year, or before the grayness, or if the loss of hair is more rapid than the change of color, it must be taken as evidence of disease.

In earlier times it was unhesitatingly accepted that the grayness took place in hair already fully grown. In truth, the hair was considered analogous to the limbs—in great measure permanent. The idea that there was a continual falling out and renewal did not enter men's minds. It never occurred to any one that the grayness began with the very young hair. Men thought that it seized the mature hair throughout its entire length at once. In our century quite the opposite view is taken. It is now held that no colored hair can ever become a gray one. The former must fall out, and the latter must grow in its place. Which opinion is the correct one can be determined only by examination of the hair which falls out, and by microscopical examination of the gray hair itself, together with careful observation of the young hair.

It is contrary to all unbiased observation that reserve coloring matter should evaporate or be re-absorbed. A hair plucked from the head may, it is true, be bleached by chlorine; but that a material similar to chlorine is provided by the scalp has never yet been made out. I, therefore, am convinced that where the microscope shows no color in a given hair, there has never been any there.

One thing, however, is possible. Two peculiar kinds of hair formation have been seen by observers: one was in Greifswald, about forty years ago; the other two years since, in London. Both were cases of young men, whose hair presented the appearance of a pretty equal distribution of white and dark—not alternate hairs, but alternate large groups. Some hairs were colored their whole length. There was no hair white throughout, but showed alternation of colored and white. On animals such hairs are often found; with men it is one of the rarest of rarities. At any rate only the above cases are on record. The microscope showed a marked difference between the human hairs alternately colored and those of animals. Many observers examined the human hairs, and with the following result: Even in the white places the coloring matter was unmistakably present—it merely made no impression on the retina, because the surface of the hair was scaly, and among the scales were a great many minute

air-bladders—oblong or round—which being at different levels, reflected the light with rather intense brilliancy, keeping it altogether from reaching the granules of coloring matter; thus, by reflection, giving the effect of total absence of hue.

This observation started the thought that the taking on of grayness might sometimes be due merely to the loosening of the outside layer, and the formation of scales with their air-bladders. It may be that all cases of sudden change to grayness may find satisfactory explanation in this fact.

As is well known, we often hear of men and women who in a few hours become perfectly gray, in consequence of violent emotional excitement. The most familiar instance is that of Marie Antoinette, whose hair, after she had heard her sentence of death, became, in two or three days, quite gray. Last year a case was reported by a physician of Hamburg. During an overflow of the Elbe, a peculiarly constructed under-ground room began to fill with water. This cellar room was occupied by a man and his son. The boy was in the first deep sleep after the reaction ensuing upon a violent attack of some disorder. In the general confusion, arising from the sudden overflow, the occupants of the room were overlooked. On being aroused by the rising water the man immediately sat upright, and lifted his helpless boy as high as he could, so that the latter might not be suffocated. The room being very low, there was not space for him to convey his child to the outer door. The constant rising of the water soon made it apparent to him that both must perish. At the very last moment he was rescued. A short time after he found that his hair, previously dark, had become gray. Unfortunately the physician who observed the case did not make use of the microscope.

In another case, that of a young man in Greifswald, where grayness followed a violent attack of delirium tremens, observations with the microscope were made, and it was shown that there was still color in the hairs—the surface being covered with scales and air bladders.

These observations, however, have but little weight, as they were not made in strict conformity to the severe requirements of science. The hair was not examined *before* the condition resulting in grayness. The young man may have already had gray hair, disguised by dyeing; and the

apparently sudden change may have arisen from his neglecting to apply the customary dye. Even if this was not the case, still doubt remains, and can not be eliminated. If such instances are ever genuine they occur very rarely indeed.

With experiences in view which I have repeatedly made, I would caution against another source of error. Suppose a man in middle life loses his wife, after a short illness, or a mother is bereaved of her son, previously in sound health and full of promise; suppose a merchant brought to the verge of what seems inevitable bankruptcy by the failure of a business friend, causing him weeks of intense mental distress—it may well happen that the normal condition of the scalp is so interfered with that no coloring matter is furnished to the young hair. Observing acquaintances confidently infer that the grayness is due to the painful excitement. Now, if such hair is carefully examined with the microscope, it will be found that grayness extends only a short space from the root, and that the color is not actually absent; it is merely hindered from showing because of the state of the external layer. In such instances of sudden change I have never found a single hair gray throughout its whole length.

In my opinion this highly interesting matter assumes about the following form: It has never, thus far, been clearly established that a colored hair has become gray throughout its entire length, or, indeed, in any portion of it. The declaration has, rather, always come thus: the subsequent, or base growth, has had no color, or the colored hair has fallen out to make way for its gray successor. No other kind of grayness has ever been observed. If any one should ask me whether I believed in suddenly supervening grayness, I should reply: "In natural science no one may say he believes, or does not believe. One should observe and investigate, in order to arrive at the truth. We should have no belief about it. At least we should never rest satisfied with belief."

The question under consideration is readily answered by observation; and I hope many readers of these lines will thereby be induced to become observers. Let them, however, be correct ones—without bias. Let him who conceives that he has gained something new at once consult an expert, or communicate the supposed knowledge

to me by mail. A single well-established fact may clear up a subject which has troubled physicians for twenty-three centuries. Such facts must, however, be confirmed on the spot by some competent expert, especially aided by the microscope.

That a hair, previously colored, may become gray in appearance, can not be doubted. I will give an observation of the distinguished Brown Sequard as confirmatory. About a year since he found, one morning, a few white hairs in a group among his dark-colored beard. It surprised him to see these hairs, and in order to investigate the affair, he carefully drew them out with a pair of tweezers. The next day a few more decolored hairs showed themselves around the spot where the others had stood. He drew these out also. The following morning another lot appeared. Unfortunately, the observation, although made by an able investigator, is lacking in scientific precision. He did not measure the extracted hairs—a very important matter—neither did he make use of the microscope. Yet I hope others may be influenced by his action. It must be constantly borne in mind that the microscope should attend almost every observation.

If, as I conjecture, such hairs (of the beard) should show that the color is really present, it would be only a repetition of what has been observed in the hair of the head, although the structure of the two kinds of hair presents radical differences. The hair of the beard would show the phenomenon of rough, scaly surface, in a more marked form than the hair of the head.

As the condition of the hair in becoming gray, along with the falling out, shows itself in the daily loss, I append two tables—one exhibiting grayness only, the other grayness with loss of hair from disease.

The hair of females that has never been cut is the only kind upon which entirely satisfactory observations can be made.

Explanation of Table I.

It will at once occur to the reader as strange that the number of hairs falling in a given time (451) was greater with the lady whose hair was healthy than with the other one (438). The reason was the lady with decaying hair had already lost so much that she had perceptibly less hair on her head. Hence, I repeat, the mass of hair falling out in the same length of time is never a guide in

making a diagnosis: it is the quality as to length and body.

The greater number of hairs having natural points in the second case shows disease of the scalp; for the presence of point is proof of vigor; and the greater the comparative number the stronger the proof of a weak hold at the root. The most striking difference is shown in the short, immature hairs. The younger the hair the more manifest the presence of disease.

Two things make clear whether the hair is unhealthy: the aggregate number of short hairs found, and the diameter of each hair.

TABLE 1.

A—LADY OF SIXTY YEARS—SIMPLE GRAYNESS.	B—LADY OF SIXTY YEARS—GRAYNESS, WITH LOSS OF HAIR.
1. Whole amount examined.....451	1. Whole amount examined.....438
Between 1 and 2 inches..... 38	From 1 to 2 inches.....157
" 2 " 6 "153	" 2 to 6 "175
Over 6 inches.....260	Over 6 inches.....106
2. Those with natural point.....205	2. With point.....324
Of these 1 to 2 inches..... 20	1 to 2 inches.....133
" " 2 to 6 " 87	2 to 6 "139
" " over 6 inches 98	Over 6 " 52
3. Large hairs207	3. Large hairs171
From 1 to 2 inches 13	From 1 to 2 inches..... 45
" 2 to 6 " 36	" 2 to 6 " 47
Over 6 inches.....158	Over 6 inches..... 79
Hairs of middle size.....109	Hairs middle size138
From $\frac{1}{2}$ to 2 inches... .. 16	From $\frac{1}{2}$ to 2 inches 41
" 2 to 6 " 30	" 2 to 6 " 72
Over 6 inches..... 63	Over 6 inches..... 25
Fine hairs.....135	Fine hairs129
From $\frac{1}{2}$ to 2 inches 9	From $\frac{1}{2}$ to 2 inches 74
" 2 to 6 "91	" 2 to 6 " 53
Over 6 inches.....35	Over 6 inches 2

The following table will show additional facts concerning the foregoing cases:

1.—LADY—FALLING OUT OF THREE DAYS.	2.—LADY—FALLING OUT FOR FOUR DAYS.
Whole amount.....437	Whole amount.....514
(a) Among them quite white.....138	Quite white..... 53
1 to 2 inches..... 9	1 to 2 inches..... 10
2 to 6 " 43	2 to 6 " 34
Over 6 " 86	Over 6 inches... .. 9
(b) Roots alone white 34	Roots alone white..... 7
2 to 6 inches..... 1	
Over 6 " 31	Over 6 inches..... 7
(c) Points only white..... 7	Points only white 4
2 to 6 inches..... 1	2 to 6 inches..... 4
Over 6 " 6	
(d) Point and root white..... 3	
(e) Middle alone white 3	
(f) Repeated change of color.... 1	

This table shows that among those partially, or entirely white, most of them were decolored their whole length. The microscope exhibited very little coloring matter. This leaves scarcely any doubt that the white hairs were successors of colored ones.

A small portion of the white hair showed only the root as without color. The most careful examination revealed but little coloring matter. This seems to make it quite clear that in the later growth of the hair no color was furnished.

Some hairs had white points; and one, twenty-four inches long, had several alternations of white with dark. This may be accounted for by supposing that the supply of color, from some cause not known, was irregular, probably subsequently to becoming continually deficient.

Reflections Upon the History and Progress of the Surgical Treatment of Wounds and Inflammations.

BY EDWARD BORCK, M. D.

Read before the Missouri State Medical Association, at Columbia, Mo.,
June, 1879.

THE paper I have to offer, as a member of your Committee, I entitled "Reflections Upon the History and Progress of the Surgical Treatment of Wounds and Inflammations," and will say that it is difficult to select a subject from the treasury of surgical science that will interest and be of practical value to all practitioners. I might have chosen plastic or congenital surgery, or some capital operations, but they are not of daily occurrence, nor is it the good fortune of every doctor to have the opportunity of performing them. Furthermore, they are nearly all in a high state of perfection, and we can not, in the short space of one year, expect great progress.

Take lithotomy for instance. It is almost perfect, and lithotripsy is gaining ground.

See Dr. MacLeod's (of Glasgow) excellent paper advocating the rectangular staff.

Dr. David Prince upon the same subject—median operation.

Dr. Wm. Hudson Ford, Province of Lithotripsy, *St. Louis Medical and Surgical Journal*, May, 1878.

Dr. H. F. Bigelow, *American Journal Medical Science*, January, 1878.

Dr. Geo. C. Duncan, Litholysis, *Edinburgh Medical Journal*, May, 1877.

Ovariectomy is also at its height. The operation has been performed in the past year, in several instances, during acute peritonitis, successfully. Also on a child twelve years old, by Dr. T. Barlow, May 25th, 1878.—*London Times*. Also on a child seven years old, and upon an infant two years old, the latter for a dermoid cyst.

A case of Cholecystomy, by Dr. W. W. Keen, of Philadelphia, is reported—*American Journal Medical Science*, January, 1879.

Splenotomy, by Billroth and H. L. Broome, of *West Brownswish District Hospital* (fatal).

Osteotomy is growing in favor.

Herniotomy is at a standstill. I have found no new invention for the cure of hernia.

Extirpation of the larynx has been successfully performed by Dr. David Foulis, of Glasgow, and by Billroth—the patients being subsequently provided with a vocal apparatus.

Excision of the rectum, by Koeberle, of Strassburgh, and all functions regained. Also a successful case, each by Dr. Briddon, of New York, and Dr. Lewis, of Philadelphia.

Excision of the tongue, by Paquelin's Thermo-cautery.

Upon fractures and dislocations, so much has been written and apparatuses are so manifold, that the subject is almost exhausted; but I will call your attention to malleable glass, which may be available for splints in the future, and other dressings. The only thing new and original, to which I can call your special attention, is a paper by Dr. Luecke, of Strassburgh, "On Percussion of Bones," read before the Congress of Surgeons at Berlin. (*American Journal Medical Science*, April, 1878.) The rubber bandage also deserves special mention. A fine field, yet open to the surgeon for investigation and experimentation, are the nerves and dislocations of muscles and tendons. I have made slight allusions to a few of these operations.

But, gentlemen, little things ought not to be neglected on account of great ones. If one knows how to remove

a *nævus* (mother mole) without leaving a more ugly or ghastly cicatrix than the natural disfiguration, treats an ingrown nail, or bone felon well, or knows how to remove a splinter from under the finger nail skillfully, he will earn as much honor. It is the attention that one bestows upon minor injuries, and the success he attains in their treatment, that first brings him reputation, and afterward capital operations. He who neglects minor points will never be a surgeon of repute.

Therefore, I have selected the old but always new story—wounds and inflammations—and permit me to go back a little further than twelve months and call your attention to John Astruc, a French writer, in 1761. He tells us that swelling and ulceration are inflammations, and often accompanied with fever, and that they are the principles of medical sciences which we should learn to understand fully before studying any other diseases, and further says, I don't talk much about theory, but care more for the cure, the practical part, and will take good care to give the very best of remedies known.

He then tells us that swellings are elevations or protrusions beyond the natural line; classifies them into natural, unnatural and preternatural; the latter again into phlegmon erysipelas, œdema, etc., according to the old writers, but thinks it would be better to classify them by following the different causes that produce these swellings, namely:

Swellings from blood, from lymph, from air, from fat, etc., etc., and tells us that inflammation is known by pain, heat, redness and swelling, and, after dividing the same into external and internal, describes the state of invasion, augmentation and resolution. He then gives the internal and external indications for the cure. He never uses the word "treatment," and devotes twenty-eight pages to the indications.

The first, he says, is to lessen the quantity of blood by bleeding, and contends that if we lessen the whole mass of blood we will also lessen it in the blood vessels that run to the inflamed parts; therefore bleed freely in the beginning, for if the inflammation is at its height, venesection will do no good. The thick blood must be thinned by ptissanes of liquoris or doggrass-root (*Rad. graminus*), the heat of the blood must be allayed with chicken tea or lemonade, to which nitrate of potash may

be added. He advises low diet, and also cathartics as manna, and emetics of ipecac, chickory-root or marsh-mallow, if there is much fever, and tonics to strengthen the heart, as the powder of dried viper or volatile salts.

Externally, warm milk, decoction of althæ or mallow-flowers, wall pellitory, or deathshead moss cataplasm of milk and bread, rice or oatmeal, with honey; should try to produce resolution, and, if necessary, to add wine, alcohol or camphor to this; rest, compression by a nicely applied bandage, and prudence may secure resolution, but if abscesses form, they must be cured by mush of flour, to make matter (pus); when ripe, to be opened with the knife or caustic, and then dress with basilicon ointment to keep out the air; for bad smell to use tinct. of myrrh or aloes, or camphor spirit; to make cicatrix, dry dressing or burnt alum. To cure carbuncle, same as already mentioned, and in addition, blue vitriol and lard externally, or cure at once with escharotics, like *lapis infernalis*, or actual cautery, and to finish with balsams. In ecchymosis, bleeding and scarifications, externally, piece of bacon or fine chewed bread, paper or nuts, or white bryony root with chamomile and laurel berries as poultices. For frost-bites he recommends turnips, turpentine, and to smoke the part with myrrh or storax, or, still better, old leather or horn, and aromatic bath of lavendulæ. Thyme, sage, or sow-bread (*Rad. Cyclamins*) with wine or warm urine, and to pencil with ol. lubricorium.

In erysipelas, the same remedies, except no fatty applications, nor astringent remedies, but cooling medicines, like rose vinegar. If pain is great, cow's milk, elder flowers, white of an egg, as cataplasm. After inflammation is subdued, lime water and alcohol.

Simple wounds he dresses with plaster or salve, to keep out the air. Such are the writings, a century or more ago—quite different from the present time. Then remedies were sought after; now we have more physiology, pathology, histology, theorizing and speculations, and less treatment.

Nevertheless, men like John Astruc were most acute observers, students and experimenters; for he tells us in one place that absorption must take place through the lymphatic system, and proves it by taking a dog, whipping him unmercifully, until the whole skin was ecchy-

mosed. After a few days he opened him and found the lymphatics full of red blood, which showed, he said, that they had partly taken up the blood that was extravasated. So much for our French writer, for curiosity sake.

If we now glance over John Bernstein, a German writer, in 1790, twenty-nine years later, we shall find more attention paid to the process of inflammation, and less to the cure. He also tells us that inflammation (*phlegmon*) is known by redness, swelling, heat and pain—divides it into *vera* and *spuria*. He speaks of a double fever, a fever preceding the inflammation, and a fever accompanying inflammation or a consequence of it; gives the symptoms, and mentions the complications of nervousness and biliousness; describes shock, and speaks of a fever produced by bad air in hospitals, etc., etc.

The treatment, he says, is antiphlogistic, but no mention is made of calomel and tartar emetic. He, however, speaks of cinchona bark as a tonic and absorbent of bad fluids in the system. Externally he thinks bread poultice the best external application, as did the French writer.

To wounds he devotes 228 pages; and, after the usual classification, describes the healing process. Speaks of direct union, and union by pus; describes a putrid fever accompanying wounds, and attributed the cause to matter running into the system.

Wounds he wishes to be dressed simply, and lays great stress upon rest upon splints and bandages, and upon keeping the air and dust off. The mind of the German writer, we see, ran in another and better direction.

Their remedies are all from the vegetable kingdom, though there was a time when the minerals, lead, zinc, copper, mercury, bismuth, etc., etc., were in the ascendant.

Some may think all this superfluous, but if you read and study old books you will find it pays well. You will often observe that things appearing as new are but resurrections, and many have been transmitted to us to the present time. Some read as well as novels. If you go beyond the time of the two authors I mentioned you must read Percy, for he tells the most charming tales of the mysterious vulnerary waters of the middle ages.

But, gentlemen, it was John Hunter's researches that gave the foundation to our present views. The history of the rational treatment of wounds begins with him.

(Hunter's Treatise on the Blood, Inflammation and Gun-shot Wounds, 1793.) He was the first that described the process of healing, by first intention, formation of granulations and pus, suppuration and cicatrisation, and divided them into the different stages. He studied all the processes with a marvelous acuteness of observation. His work was, at the time, not understood by his own countrymen, who looked upon it as the product of a fanciful mind; but it is a remarkable example of the many great conceptions which were evolved a century previous to the time of their general acknowledgment. Even the discovery of the animal cell did not upset Hunter's principles—it only explained what elements are at work during the different processes—the process itself is still comprehended and taught us as by Hunter. He also studied the process of the healing of subcutaneous wounds (1767), and his piercing eyes also recognized the peculiar process of healing under a scab—he comprehended the surgical, or, as he called it, the symptomatic fever, as the effect or result of suppurative inflammation upon the constitution—he recognized phlebitis and the mixing of pus with the blood as possible. It is not necessary to quote more than this. We see that the experiments and ideas of Hunter spread themselves over generations, and concatenate closely with all our own modern investigations. If the process of healing, as Hunter taught it to be distinguished, was understood before his time, the surgical fevers would also have been studied before him.

But just as bad as the constitutional treatment was the local; the stuffing of wounds with charpie, the use of all kinds of plasters, herbs and roots, cataplasms and ointments, was a blind mania, and the few surgeons who had the courage to condemn such misuse appear to us as benefactors of mankind. (Edw. Albert's Surgery.)

I do not need to speak here of the badly ventilated hospitals in Europe, and especially of Berlin and Paris. Refer to G. Fischer's Surgery, a century ago.

Pringle desired fresh and pure air for the wounded. Gregory, in Edinburgh, Fordy, in London, urged humane arrangements for that purpose. Panteau's and Pelletau's cautions against the abuse of charpie, Smucker's recommendation of cold water in injuries and inflammations, were the first sign of reform in an ignorant and horrid treatment.

In 1809, Vincenz Kern, in opposition to the French, who still persisted in the old treatment, introduced the simple treatment of rest, easy position and lukewarm water dressings. From this arose the permanent water baths of Wagner, Loninzer, Langenbeck, Stromeyer and Gosselin, which, on account of the difficulty of their employment, did not become general.

This simple treatment, with water, found the best reception in England, Scotland and Ireland, where Liston practiced and advocated it until his death. This method is still adhered to in some hospitals in Germany. In France this method has only occasionally been practiced, and never was in general favor, because the arrangements of the French hospitals produce, too often, putrid diseases; and simple water dressing gave to the French surgeon no protection against such an occurrence.

So, we see, that about this period the treatment of wounds was divorced from the dreadful quackery that had bewildered the surgeon, and that has corrupted the laity to the present day. A return was made to the natural process of healing wounds—that is, to keep off that which was injurious and to assist nature.

But what is this natural process? First, the quick healing of wounds by first intention. Second, by pus, and formation of granulations. The laity had recognized this first process, and does so at the present day. If a cabinet maker cuts himself with his chisel he sucks out the blood and smears the wound over with glue to keep out the air, and he informs you that his wound is healed up in a short time. The painter uses varnish and white lead for the same purpose. The bookbinder glues a piece of paper over a cut. The railroad man employs petroleum; the shoemaker a pitch plaster; the baker chews some bread and applies it; the butcher ties a piece of raw meat upon his wound—the three latter generally not healing so quickly. So we see that to keep out the cold or bad air from wounds is recognized, by people in general, as necessary.

However, if we simply apply water dressing we are passive, and leave the work to nature, either to heal by first or second intention. This passiveness seemed to disappear at the end of the last century and the beginning of the present, and an activity appeared, in some form or other, to produce reunion by first intention; and, although

it is true that some French surgeons—Valentine, Percy and others—had tried, and were convinced that union by first intention could be produced, nevertheless it was not until the researches of Hunter, and the publications of John Bell, on the treatment of wounds, that the general attention was directed to the reunion direct.

To-day, then, there are two methods of treating wounds.

The securing of union by first intention, and water dressings for the second intention, or, healing by suppuration—the open treatment.

I shall not occupy your time with the whole history of infectious surgical diseases, accompanying or produced by suppurative wounds; suffice it to say, that infection from such sources is self-evident. We have to take into consideration infection from external sources.

These questions, and how these infections take place, occupied the minds of surgeons.—Refer to Darcet, 1842, *Decomposition of Pus*.

Sedelot, 1843, teaching of absorption of gangrenous debris in blood, and cause of purulent infection.

Monteggin, Velpeau, Dance on pyemia.

Virchow, 1846, on the same subject.

A. Guerin, 1847, purulent infection, upon which he looked as a surgical typhus, and compared it to malaria.

O. Weber and Billroth, by experiments, followed the same ideas, and we find that the theory of surgical fever produced by some infectious matter or substance in a wound was accepted from all sides.

But of what nature is this poison? Whether it is a chemical poison, bacteria or a micro-organism which produces putrid infection, I shall not discuss at present.

But long before this theoretical question sprung up there had been an endeavor to find remedies that would prevent putrid infection of wounds.

Maisouneuve, 1862, advanced the following theory, and says we may prevent infection:

1st, By preventing the production of poison.

2d, By destroying the already present poison.

3d, By blockading, and thereby preventing the poison from entering; and Rochard, in his history of French Surgery, very ingenuously adds: This is truly a logical train of thought, but it is astonishing that surgeons began with the last, and not with the first proposition.

Accustomed to expect everything from operative sur-

gery, methods were invented—first to blockade the road against the poison; second, it was tried to neutralize the poison by dressings, and last came the happy thought that seemed to solve the problem; namely, to better the arrangements of hospitals, adopt a method of hygiene, and thereby prevent the production of any infectious putrid poison.

In 1698, an English surgeon in London recommended sulph. acid. as an antiseptic. There was also a secret nostrum, a powder, which was sprinkled upon wounds to prevent suppuration; but a systematic method of antiseptic dressing was first begun in the last fifteen years.

1st, Came the glycerine dressings by Demarquay.

2d, The powder of Corne and Demeaux, 100 parts of plaster of Paris and $\frac{1}{3}$ parts of coal tar, which he tried upon wounded Austrian soldiers, 1859, and which occupied the French Academy greatly, but did not satisfy them.

3rd, Fluid de Condé (*pot. permang.*) which was employed in England and during our war, also bromine and many other remedies; but they all acted only as disinfecting agents; they would not prevent surgical infections, neither did alcohol dressing.

Chemicals, then, disappointed the surgeon, and other methods to prevent infection were sought after.

Original was the idea of Jules Grierin of pneumatic occlusion. He tried to keep off the air by putting the amputated limb in an India rubber bag and exhausting the air. Lonnelongue, Maisonneuve and others, tried to improve upon the method; but it remained only a trial. Then comes A. Guérin, who, instead of keeping off the air, tried to filter it through cotton dressing. After bleeding ceased, the wound was washed with camphor spirit and water, and dressed with layers of cotton, which remained undisturbed for three weeks. With success he introduced this method during the war (1871), in Hospital St. Louis, and it was gladly adopted in others; but it excluded the healing by first intention. All his trials and experiments had not the wished-for success. It disappointed the hopes of the surgeon and left us in despair that the infection of wounds ever should be prevented by dressing.

But lo! just at that time, when despondency was at its height, came a man of talent and perseverance, and

showed us that we ought not to doubt. Lister, with his antiseptic dressing, created a new era in surgery, and by it we hope to completely control surgical infections.

Lister is a firm believer in Pasteurs' teaching, and with his method you are all acquainted.

Gentlemen, the three greatest achievements of surgery have been obtained in the present century. The discovery of Anæsthesia, the blood-saving method of Esmarch and J. Lister's antiseptic dressing. If those great men, who have labored so faithfully and so greatly promoted the art of surgery, *i. e.*, a Cooper, a Dupuytren, a Scarpa, and others, could arise from their graves, and could witness to-day a simple amputation, or a resection of the knee, under a deep narcosis, with Esmarch's bandage and Lister's antiseptic spray and dressing, they would surely think they had slept more than a century; they would greet with enthusiasm what once they had thought in revery. I admit that Lester's method is not convenient for daily practice, but we can use it in some form or other. The different modified methods that may be employed for dressing wounds, as well as the present modern treatment of inflammation, I leave for discussion to the members present, but will call your special attention here to thymol, as an antiseptic, vaseline, benzoic acid and boric acid ointment, as a dressing for wounds.

In conclusion, let me ask the question: How much credit for the late advancement of surgical science, and for the invention of mechanical appliances, belongs legitimately to the American profession? If the time were granted me, it would give me pleasure to point it out to you, and I am sure many would be astonished to find that, not alone have we kept pace with the old world, but that, in many respects, we have surpassed it. Gross' "A Century of American Surgery" will give you a slight idea. That we take the lead in mechanical surgery is beyond any question, and proven by granting to America the first premium for orthopædic and surgical instruments at the Paris exposition.

As late as thirty years ago you could hear but little or nothing of American surgeons in Germany; to-day they are bound to acknowledge American skill, and give due credit where it rightfully belongs, as shown by the translation of American works into German and other languages, and by the mentioning of our surgeons in their

lectures, and by the adoption of some of our apparatuses; namely, the suspension splint, etc., during their war and in their hospitals. True it is, that almost every country had its renowned surgeons; but comparatively, they have been few, and, though we can not boast of a single one that has overshadowed all the rest, yet our knowledge and skill is more diffused over the whole country; and if we carefully collect everything and bring it in one compass, we certainly can compare favorably with the rest of the world. If, with the ingenuity that is congenital to the Americans, we keep on progressing in the future as we have done in the past, certainly something extraordinary must be accomplished. When specialists have obtained better recognition in the profession, then, and not until then, we shall have our great surgeons to adore.

Gentlemen, if we could arise after having slept a century in our graves, and assemble here again, and could behold the progress then with all our new inventions, *the megaphone, the telephone, sphygmograph, the dental engine*, etc., I feel sure we should be astonished and struck with admiration.

The Pathology and Abortive Treatment of the Zymotic and Inflammatory Diseases.

Read before the Academy of Medicine, Cincinnati, Ohio, February 16, 1880,
by DR. J. KORNITZER, of N. Topeka, Kansas, and reported for the
MEDICAL NEWS.

THE essayist, very briefly, without any quotations and by a strictly scientific succession of logically coercive conclusions, arrives at the fact that, in the feverish diseases, by an idiopathic *local exudation* into the parenchyma of some organ, say a lobe of the lungs, and, by the *general exudation* which, owing to the consecutive general relaxation of the entire vascular system, takes place all over the organism, *the blood loses a most considerable proportion of its oxydable (combustible) constituents*.

He further shows, by incontrovertible evidence, how, by a concatenation of anomalies, the mechanical momenta, co-operative in absorbing and forwarding the lymph and chyle into the blood current, are impaired in these diseases; how stagnation is established all over the lymphatic and chylapoetic system; the thoracic duct ob-

structed and clogged up with a stagnant *unmoved* stock of valuable material, and, thus, *the only channel to carry substantial food to the impoverished, needy blood, more or less completely obstructed.*

These two facts, namely, the exhaustion of the blood by local and general exudation on one hand, and the adequate supply of fresh, easily oxydable material being cut off, on the other, Dr. K. considers as constituting the deadly danger in all feverish diseases. He says:

"8. Now let us consider the condition of things in fever. On one hand, the tissue interstices of *all* organs, and especially of the organ idiopathically diseased, *inundated with a plasma swamp, teeming with proliferous minute organisms*; while, on the other hand, the blood is robbed of, qualitatively and quantitatively, most important constituent parts. The blood, I say, robbed of its vital parts, *without receiving by way of its feeding pipe, the thoracic duct, the necessary new supply of chyle; that fresh, alimentary material of low oxydization*, so essential for the maintenance of the physiological condition of the blood. For let me demonstrate here that:

"9. *The main forces in forwarding the lymph and chyle are utterly impaired in this class of diseases.*

"One of these forces is the diastolic *movement* of the heart. This diastolic movement, I am afraid, is perhaps a little too slightly thought of as a dynamic force. Let me give you an illustration. Suppose the heart to be inclosed in a rigid capsule, say of bone, for instance. It is evident that in such a case a vacuum would arise, at every systole, between the heart and the inner surface of that capsule, and that because *natura vacuum horret*, the heart would return to its diastolic attitude, not with a mere passive relaxation, but a considerable active force, which would necessarily exert a considerable suction on the neighboring large veins and indirectly on the thoracic duct. Now, the pericardium is not a *rigid* capsule, it is true; but, on account of its being fixed to the sternum, the diaphragma and the mediastina, it will, to a certain extent, act as such.

"Another very important and efficacious force in forwarding the lymph and chyle is *the difference of pressure within the thoracic and abdominal cavities*—that of the latter being the larger—and that *difference* still increasing at every inspiration.

"A further momentum in the onward movement of the lymph and chyle is the *contractility and the valves* of the lymphatics and lacteals and the contraction of the skeleton muscles in bodily exercise.

"Now let us see how matters stand in this regard during a fever paroxysm.

"(a) The lymphatics and lacteals, like the rest of the vessels, are in a subparalytical state;

"(b) The inspirations are shallow and inefficacious, the excursions of the diaphragm small;

"(c) There is no bodily exercise;

"(d) The cardiacal suction is greatly impaired on account of there being but small diastolic movements.

"(e) The lymphatics, including the thoracic duct, that delta of the lymphatical system, are filled up to their utmost capacity with stagnant contents, and the mesenterial and lymphatic glands are obstructed by the excessive proliferation that is going on in them, or, may be, by the invasion into them and accumulation of white globules.

"Now it is evident that under such circumstances the resorption and onward movement of the lymph and chyle must come to an almost absolute standstill.

"And it is these two items (8 and 9) that constitute the mortal danger in all diseases of the class under consideration here. These diseases are, in fact, identical in all essential characteristics, and differing only in regard to locality; that is to say, in regard to the vasomotor nerve centers primarily injured. In all disorders of this class we have to deal (1) with some more or less extensive local or primary exudation, and (2) a general exudation which is diffused all over the system."

Dr. K. makes himself the *expounder or interpreter* of the febrile symptoms by pointing with really striking clearness to the *material and mechanical* causes producing the same, and to the succession in which they follow out from and after one another.

In doing so he succeeded in giving us a valuable frame on which to build up the natural history (or let us call it morbid physiology) of the feverish diseases—a thing which, up to this day, has been the keenly-felt *pium desiderium* of the thinking practitioner.

But better—because of immediate practical value—than all this, are the *indications for treatment*, which

the essayist quite cleverly, though in a very simple way, derives from his pathological theories, or *facts*, as he calls it—and *the special treatment of a whole series of diseases of the class in question.*

He maintains that in nearly all of them he had put his method of treatment to a strict test, and, *at every instance*, found it not only unfailingly successful—this might as well have been accidental—but really *abortive*, cutting short the most severe cases of scarlet, typhoid, pneumonia, etc., and introducing manifest convalescence within two to five days.

Let us quote here again from the paper:

“What I have said up to this is quite sufficient to draw indications for THERAPEUTICS.

“The first of all indications within our reach to fulfill is, to quickly evacuate the clogged-up thoracic duct and to keep its passage free in order to re-establish and maintain lively resorption all over the system.

“By bringing about this the blood is, at the same time, *fed* (by receiving the contents of the thoracic duct), and the exudation, by its being reabsorbed, is *saved from decomposition*, or, at least, from further decomposition.

“To fulfill this *vital* indication *quickly, safely* and *perfectly*, there is nothing better than *repeated vomiting*. I say *repeated*, since, in order to be really beneficial, it must be induced every eight to twelve hours in the first two or three days, and after this once in twenty-four hours, as long as the fever is threatening to become high.

“The mechanism of the act of vomiting I certainly need not describe here; it will suffice to say that the powerful and symmetrical contraction of the abdominal muscular system (*prelum abdominale*) will press out the alimentary canal like a sponge. The contents of the stomach, and, in part, the duodenum, will escape by the esophagus, of course. But that is the least thing performed by the vomiting act. The most important is the forwarding of the contents of the intestinal villi and submucous cellular tissue toward and into the thoracic duct, and so to shove the contents of this large canal onward and into the left subclavian vein.

“And that is not yet all. There are further advantages to gain by the vomiting act which the skilled physician will be glad to take into the bargain, namely:

“(a) The abdominal aorta being compressed by the

muscular action of the *prelum abdominale* during this act, the brains will receive a number of rich waves of arterial blood—a fact that, under the circumstances and for many an obvious reason, can not be too highly appreciated.

“(b) The liver and the lower and upper *venae cavae* will also have to disgorge their stagnant contents of blood and have them shipped to the heart. This last organ, expanded by the full waves of venous and portal blood *forced* into it, will soon be aroused to, and resume its double function of suction and force pump.

“(c) The intumesced spleen will certainly be depleted.

“(d) And besides, and above all this, the *ipecacuanha*, which is to be applied for the purpose under consideration here, is certainly known to every practitioner to be a most energetic tonic on the vascular system and bowels, acting, as it is, on their muscular strata. By this potentiary virtue of this remedy, the intra-vascular pressure will soon increase, the *kidneys and sudoriferous glands will act and the system will COOL DOWN*.

“The next indication is to protect, by local appliances, from decay and getting virulent, such exudations as appear on accessible surfaces.

“For this purpose I prescribe, *e. g.*, in scarlet, measles, variola and other exanthemata: Merc. sublim. corros. gr. L, Spir. vin. rectific., Glycerin., Aq. destill. 4 oz. each. Of this solution three to four tablespoonfuls are to be poured out on a saucer, and, by means of a barber’s brush, applied all over the body, care to be taken of the apertures. This is to be repeated three to four times in the twenty-four hours. I never had to regret the application of this powerful wash.

“For the throat in Diphtheritis I prescribe: Chloral. Hydr. 1 dr., Aq. destill. 2 oz., Glycerin. 1 oz.

“To be applied to the throat by means of a probang—not a brush—every hour at least.

“Or, better yet, Rp. Acid. tannic. gr. viij.

Salicyl. Sod. scrup. ij.

Bibor. Sod. gr. x.

Sacch. Albi. oz. j.

“A pinch of this powder to be given every hour or oftener.

“The last—and, in fact, the least—indication is: to regulate and keep up the heart action. This purpose is

reached by the administration of some cinchona preparation, say, quinine or a decoction of the bark in wine, to be given in the intervals between the vomitions, when the action of the remedy will be found to be *startlingly prompt*, for the obvious reason of its being *readily absorbed* and carried to the blood."

Now, true as it is, that the therapeutics presently *en vogue* for the feverish diseases be the best we ever had, it is none the less true that no practitioner of good sense would take the risk of maintaining that it is the best *we want* or *we are ever to have*.

If Dr. K.'s sketch of the Pathology and Therapeutics of the Feverish Diseases contains a nucleus of truth (as it probably does), it is sure to give the first impulse toward a radical reform in this branch of medicine.

All that is required to corroborate the practical value of Dr. K.'s theories is to have them widely disseminated and fairly and persistently tried at the sick-bed. There is certainly no risk in applying this method of treatment.

[The paper will soon be published in full, of which we have only given a comparatively meager outline, and can be procured by addressing him at his residence.—REP.]

SELECTIONS.

Hints Upon the Treatment of Paralysis in Early Life.

BY HENRY G. DAVIS, M. D.

I WILL not attempt to discuss the various causes of this particular affection, or to rehearse in detail its symptoms, mode of attack, parts most liable to suffer, or its special pathology. Such a course would be foreign to my purpose, as my intention is merely to give some hints in regard to the treatment of that class of paralytic troubles that are in the majority of cases purely functional when they present themselves for treatment. In using the term "functional paralysis" that condition only is meant where the paralysis remains after the cause is apparently removed.

Before proceeding further allow me to draw attention to a marked difference in the tendency to recovery un-

aided by treatment between adults and infants when similarly attacked with paralysis of one or more limbs. This difference is not recognized, yet it is so marked in our experience that it very materially controls our special course of treatment.

An adult paralyzed, when the cause is removed, begins to use his muscles in accordance with his former habit, and his recovery may be rapid. On the other hand, if an infant becomes afflicted in a similar manner, it is very seldom that it recovers the use of all the muscles affected. The reason why there is this difference appears to be this: The adult *before* his attack has a perfect use of his muscles; he has formed the habit of moving certain muscles for the accomplishment of certain purposes; this is so much a habit that he is not conscious of exercising any act of volition. This habit has been so confirmed by constant exercise previously that when he is ready to make a trial of his muscles they are brought into action in the same order and in the same manner in which they had been trained before his paralysis. The force of habit controls his efforts, and he attempts to move his limbs as formerly. In the child, however, a very different state exists; in his efforts he is neither guided by his reason nor by the force of habit. He is not capable of making any systematic movements of the paralyzed muscles from habit or reason.

In the paralysis of infants the attack is at so early an age that they have not formed any habit in locomotion. Hence, when the cause is removed, they are like infants, but without any nervous influence, as it were, compelling them to move their limbs. In these cases the patient should be put under a regular system of education, training him to direct through the will the nervous influence to particular muscles. The patient has lost the way or the process by which he can by an act of the will move any of the affected muscles.

It is for the purpose of calling the attention of the profession to this particular point that I am induced to offer a few remarks.

The mode of treatment which I have been led to adopt is very simple, and my experience in the treatment of a number of cases has taught me to place confidence in its efficiency.

The first effort should be to associate the mind of the

patient with some particular action of the paralyzed limb, and concentrate the will upon the movement of some particular muscle. These movements must be made first by the surgeon's assistance, the mind of the patient being for the time kept constantly directed to the parts. This can be more readily accomplished if the corresponding motions of a sound limb can be made at the same time, associating the movements of the muscles of the paralyzed limb with those of the well one. Let us take, as an example, a child that has been paralyzed for some time in one of the lower limbs; there is absolutely no power whatever on the part of the little one to move the affected member. The child is placed in front of the operator, the well limb is exposed to the knee, and the little one is shown how the patella can be made to move by his making certain efforts. When he has been so trained that he can always contract the muscles of the well limb that are inserted into the patella, and has received the idea that it is done by an act of his own will, then the paralyzed limb can be placed by its side, and his attention directed to a similar and simultaneous effort to draw up the patella, while at the time of his effort the surgeon raises the limb in unison with the other. This should be repeated until the muscles of both limbs will contract simultaneously and by the action of the will of the patient.

This voluntary action of a muscle paralyzed encourages and aids its growth much more rapidly than any mode of simple passive exercise. It is effected by the same law that increases the size and power of a muscle that is in a normal condition; namely, a natural exercise or use of it. As I have before intimated, if both the lower limbs are similarly affected, the difficulties in the way of a speedy cure are somewhat greater, requiring more time and patience, but the principle of treatment remains the same.

The length of time required to effect a cure varies, of course, with the circumstances attending each particular case, as the age of the patient, the length of time since the attack, the aptitude of the child to follow instructions, the success of the surgeon in controlling his attention. The time required to restore a useful limb will also depend upon the amount of atrophy of the muscles. It matters not to what extent muscles have wasted, as this does not prevent a recovery. If it can be perceived that the muscles are influenced in the least by the will of the

patient in his efforts a restoration is quite certain. A medical friend in New York stated to me a case of paralysis of the deltoid muscle occurring in early childhood, which serves to illustrate this in rather a remarkable degree, and it has been corroborated in my own practice. The patient had suffered, as has been said, from early childhood. During this time the loss of motion was constant. There was not the slightest trace of muscular substance; there was nothing but the integuments covering the locality where the muscle should have been. By treatment the muscle was fully restored.

So confident am I of the success of this particular method of treatment of functional paralysis by the education of the will that I think it can be fairly assumed that if it fail, after a persistent, patient and systematic trial, there must be some organic lesion, either of the nerves supplying the muscle of the part or of one of the nervous centers.

This was the condition of a boy, nine years of age, who came under my care for paralysis of the right lower limb that had existed since infancy. In this case not the slightest connection could be found between the brain and the paralyzed limb, not even by electricity or strychnia. This case is the only one in which I have failed of producing a favorable result. Electricity causes contraction of the muscles without the influence of the will. If the will is not educated to send nervous influence from the brain the patient remains the same so far as a voluntary use of the muscles is concerned. Friction causes a flow of blood to the part, and thus increases nutrition, but it is in a great measure of the cellular substance and not of the muscular fiber.

Unless the connection between the will and brain of the patient is established and the muscles respond to the will, what possible ultimate benefit can be expected when the electric current is stopped or passive rubbing ceases?

As soon as these unnatural stimulants cease there is a tendency to retrogression, unless *during the process* the lost connection of the brain or will with the muscles is restored. By enabling the patient to send the nervous influence to a muscle, and thus exercise it, the fiber of the muscle is increased much more rapidly than the cellular tissue.

In order to illustrate this point more fully I may be per-

mitted to refer to a case, at the same time taking advantage of the opportunity to go somewhat minutely into the method of treatment employed in the case: A boy, four years of age, was placed under my care, who was paralyzed in the right lower limb when eighteen months old, at a time of life when the correct habit of walking had not been fully formed. He had no use of the muscles of this limb, except a slight power over the toes, which is not an unusual feature in these cases. As far as an ability to make any co-ordinated motions, such as are to be noticed in the complex effort of walking, there was none whatever. The muscles and nerves were there, yet from the entire neglect and disuse of them for the long period mentioned the brain had practically ceased to regard them as a part of the system. I seated him in a chair and went through with a systematic course of training in the manner before detailed.

The flexors and extensors were first operated upon, and the movements were made in common with similar movements of the sound limb, the attention of the patient being directed at the same time toward making an effort to aid the action of the paralyzed muscles. After considerable trouble I succeeded in effecting a movement of the rectus femoris, so that it plainly twitched under the eye. Subsequently I arrived at a stage in the treatment which warranted me in allowing him to stand and bear the weight of his body, cautiously, upon the unsound limb. While in this position he soon became able to flex and extend the limb, and take his first lesson in self-progression. He finally became able, by dint of a considerable amount of voluntary effort, to take a few steps. This he could do tolerably well (with the aid of a crutch, of course) as long as his whole, undivided attention was directed to the proper performance of the act; but if his mind were drawn off, even temporarily, from its purpose, although he might continue the attempt at locomotion, the paralyzed limb would remain motionless. This was a uniform result, and by watching his countenance it could be known when he would fail to move his limb. This result is mentioned to show that although he had acquired the power he had not the habit.

This shows in a marked degree how essential is the influence of the mind in restoring motion to paralyzed muscles. The sequel of this case was very satisfactory,

and serves to illustrate the necessity of long-continued and persistent education in order to confirm the habit, until it becomes, as it were, involuntary. When such a habit of walking is formed in the child he can safely be said to be cured.

As an encouragement to the effort of educating the will to control properly the muscles in these cases, I may state that a child, after paralysis, if left to himself, will generally, nay, almost unavoidably, acquire an awkward habit of walking, which he will probably retain through life.

If a child recovering so as to be able to stand upon one limb, with his hands upon a chair, is noticed, when he wishes to move he pushes the chair, and then hops upon the well limb, dragging the other. If anything catches the sole of his shoe in this effort, so that he can not drag his limb, if he is ingenious he will lift the limb by the pelvis, so as to overcome the obstacle. Then, as soon as he has found out how to bring the knee back of the center, as in using an artificial limb, he will begin to use it for walking; and this style of locomotion he may retain through life, when, if he had been properly trained, he might have recovered the ordinary grace of movement. In these cases there is not absence of all connection between the brain and the paralyzed muscles, but a want of knowledge of how to affect them, or how to communicate with the muscles. The great difficulty, after all, is to find or continue some movement or process by which the patient shall bring his will to act upon the paralyzed muscles. The function of the brain is restored apparently in these cases, but knows not how to use its power.

In certain cases of paralysis a deformity follows by the contraction of some muscles. In these cases the paralysis is overcome when the limb is restored to its normal position. A boy came to me from Connecticut in this condition, who recovered the use of his muscles as soon as the deformity was remedied. A young lady came to me from Iowa, aged sixteen, with dislocation of the femur upon the dorsum of the ilium, turning her foot so that she walked upon the side where it was fixed. She had lost all use of those muscles that were necessarily unemployed. After the hip was reduced and the foot brought into place she recovered entirely the use of the muscles of the foot and a perfect control of the limb. I could add any number of illustrations from patients treated, but let these suffice.—*Boston Medical and Surgical Journal*.

Absorption by Granulations.

THE idea that granulations are good absorbing surfaces is one which few at the present day would be disposed to entertain. For it has been generally supposed that, as soon as a wound had granulated, the patient was free from any further danger of absorption of noxious materials; and those cases in which symptoms of blood-poisoning supervened after this period, were supposed to have received the poison before granulation was complete. And yet, several facts have been for some time known which demonstrate that some substances, at least, may be introduced into the circulation in this way. Thus Bonnet, in 1852 (*Gazette Medicale de Paris*), confirmed the observations previously made as to the absorption of strychnine by granulating wounds; and he further pointed out that the same was the case with iodine, more especially when applied in the form of an ointment.

The paper just published on this subject by Dr. Hack (*Deutsche Zeitschrift für Chirurgie*) furnishes many new facts of the greatest interest and importance. He was led to his investigation by the following circumstance. A patient was admitted, under the care of Professor Maas, of Freiburg, with a very large prostatic abscess, which had burst into the rectum. This was followed by pyæmic abscesses in various parts of the body; the patient soon became extremely weak, and it was found impossible to administer food or stimulants by the mouth. Under these circumstances, Professor Maas determined to introduce stimulants into the abscess cavities, in the hope that they might be absorbed. Camphor-wine was accordingly, from time to time, injected into several of the abscesses; and, a few minutes after each injection, the marked improvement in the pulse showed that absorption had to some extent taken place. In a few days the patient regained his appetite, and was ultimately completely restored.

The chief questions which Dr. Hack has attempted to answer, are: What is the absorptive power of granulating wounds at different periods, as compared with that of freshly cut surfaces? Does the form in which the substance is applied, or the manner in which the wound has been treated, affect the result? A large piece of skin having been removed from the back of a dog, a suitable

dressing was applied; and in four days, granulation being then complete, this wound was tested as to its absorbing power. Two classes of substances were used, viz: such as could be found in the urine—as ferrocyanide of potassium, salicylic acid, sulph-indigotate of soda; and such as showed their presence by the production of constitutional effects—as pilocarpin and apomorphia. Applied in the form of solution to a sore four days old, treated with water-dressing, the ferrocyanide appeared in the urine in seventeen to twenty minutes; while the same substance, applied in solution to a freshly cut surface, was detected in fifteen minutes. When used, however, in the form of ointment, it was absorbed much more rapidly; and this was still more marked when the salt was sprinkled over the wound in the form of a powder. A similar result was obtained when pilocarpin was employed, the ointment and powder producing constitutional effects more quickly than when applied in the same quantity to a freshly cut surface of the same size. ¶ Apomorphia was absorbed from wounds thus treated only during the twelve hours immediately after their infliction. As the wounds became older, it was found that, though the first traces of absorption of the ferrocyanide could still be detected about the same period as in those four days old, yet no marked precipitate could be obtained in the urine till some minutes later. That this diminution in the quantity absorbed in a given time depended on the smaller extent of absorbing surface, and not on any alteration in the granulations, was shown by comparing old wounds with portions of more recent wounds of the same size. Chloride of zinc, applied in an eight per cent. solution, at once arrested absorption by the granulations. This was also very much diminished by the use of alcohol. Sloughs, caused by the application of strong carbolic acid, absorbed with extreme readiness. Glycerine also aided absorption. Where the wounds were treated antiseptically, very remarkable results were obtained. Granulating wounds thus treated absorbed both more rapidly and in larger amount than even freshly cut surfaces; and substances such as apomorphia, which could not be taken up by wounds treated by water-dressing, produced their physiological effects with great rapidity in this instance. Even after the removal of these dressings, about two days elapsed before the granulations

assumed the characters of those treated from the first with water-dressings.

The importance of these facts can not well be over-rated; and it is to be hoped that, attention being thus directed to this subject, more exhaustive investigations will soon be forthcoming. More especially is it necessary to repeat these experiments with putrid substances; for, if it be the fact that granulating wounds, treated antiseptically, can absorb putrid materials more readily than freshly cut surfaces, the practice which some adopt of only treating such cases as compound fractures antiseptically till granulation is established, and of then applying septic dressings, must be dangerous. Dr. Hack, indeed, states that he has observed that erysipelas is especially apt to attack granulating wounds which have been treated antiseptically, if the antiseptic dressings be left off while these wounds are still of large size.—*British Med. Journal*, January 3, 1880.

The Medico-Legal Society.

STATED MEETING, MARCH 3, 1880. DR. C. S. WOOD, PRESIDENT, IN THE CHAIR.

THE PROBLEMS OF INSANITY.

DR. GEORGE M. BEARD read a paper on the above subject, in which he considered first, the causes of insanity, and of its increasing prevalence in modern times; second, difficulties in the diagnosis; third, the probabilities of cure; fourth, defects of the present system of treatment in Europe and America; and fifth, the future of insanity and influences that may check the rate of increase. The following is a brief abstract: The speaker said that it was one of the paradoxes of astronomy that the constitution of the sun was best studied when that orb was in an eclipse. It was one of the paradoxes of psychology that the mind was best studied when it was eclipsed by disease. Through insanity we learned of sanity. Pathology was the aid of psychology. Dr. Beard thought that psychology was destined to be the chief of the sciences, and that its study was greatly aided by the study of insanity. The first problem of insanity was how to define it. Insanity is a disease of the brain, in which mental co-ordination was seriously impaired. There might be disease of the

brain without mental inco-ordination, but in all cases of insanity disease of the brain was implied. The word mind was used in a broad and generous sense. There was no mathematical dividing-line between sanity and insanity. Sanity shades into insanity like twilight into night, and the different forms and subdivisions shade into each other like the colors of the rainbow. There were two general divisions of insanity—intellectual and emotional. Delusions were not necessary to insanity. In very many cases there were no delusions, simply emotional disturbances. The ideas implied by the terms moral insanity and impulsive insanity were correct and sound. In some cases patients afflicted with what was called moral insanity, developed into forms of insanity in which there were delusions. Insanity with delusions and insanity without delusions ran together constantly, and were intermingled in different cases. The term moral insanity might be an unfortunate one, but the idea was scientific and demonstrable.

A second problem was, why was insanity increasing in frequency? Insanity was a barometer of modern civilization. Though existing in all recorded ages, and among all peoples, and known under various and inconsistent names and superstitions, yet it was rare and had always been rare with the savage, the barbarian, and the partly enlightened. There was no race, no climate, no institution, no environment that could make insanity common save when united with and reinforced by brain work and indoor life. Besides those general differences, there were features of the modern and pre-eminently of the nineteenth century civilization that were peculiar to it—unprecedented in history—the printing press, the telegraph, steam power, the sciences and the mental activity of woman. Bringing arithmetic to aid us in our comparative estimate, it seemed quite within the facts to aver that the modern brain must carry and endure tenfold more than the ancient, and without a correlated increase of carrying and bearing force. Insanity was increasing more among the poorer than the higher classes. Civilization ground hardest on the poor, depriving them of the healthful influences of barbarism without the compensating advantages that the higher classes enjoyed. Dr. Beard stated that he had reached that conclusion from years of study of this special subject. A number of years before, while studying the

subject of stimulants and narcotics, together with the drinking customs of different nations, he had occasion to study very thoroughly the customs of different nations, as far as could be obtained from accessible sources, works of travels and conversations with travelers, and, making due allowance for sources of error, there was an entire agreement with regard to the variety of allied nervous diseases among savages and barbarians. Quite recently he had studied the subject himself among thousands of negroes upon the island of Beaufort, between Savannah and Charleston. These negroes had been for years isolated, had not advanced a great deal beyond their original ancestors in Africa, and furnished an excellent opportunity for him to study the subject himself. He had investigated the psychology of those people carefully, by the aid of persons who, for years, had lived among them and employed them, and diseases such as neurasthenia, hay fever, symptoms of spinal irritation, and insomnia, to any extent, were not known. They drank to excess, but there was no inebriety.

Poverty made us insane, and insanity made us poor. In England the increase of insanity among the poor during the last forty years has been 300 per cent., while the population increased in the same time only forty-five per cent. But statistics relating to insanity were crammed with elements of error.

The main defects in this present treatment of the insane in Europe and America were these: First, neglect of the early stages. The insane should be treated before they were insane. The practical problem of the future was to educate physicians in the study of insanity so that they should know premonitory symptoms and treat patients in many instances without taking them to an asylum. The time would come when physicians would treat insanity just as much as they treated typhoid fever; would be able to diagnosticate it in the early stages; would be able to cure it; and, what was still better, would be able to prevent it by treating the conditions which lead to it. In a number of cases under his own observation, he had thought of referring the patients to an asylum, but satisfactory results have been obtained by treatment at home. Each case in that respect must be judged by itself. A number of his medical friends, general practitioners, he

knew were treating certain forms of insanity very successfully in that way.

The solution of that problem was already going on. Patients in the early and premonitory symptoms were constantly and successfully treated both by neurologists and general practitioners. Even those who were positively insane were treated successfully in that way at home. Second, the error was in depending on simple isolation in asylums without positive medication. The same mistake had been made in inebriate asylums, but was being corrected in them. The third evil was in the use of narcotics and sleep-forcing agents. The fourth error was the crowding together of curable and incurable cases. Three-fourths of the cases in asylums were cured in the first nine months. It was one of the facts of human progress that reforms usually came from outside of institutions that needed to be reformed. Long ago, John Bright, in the House of Commons, declared that all the reforms of English law in favor of justice and mercy had been opposed by the judges. The diminished proportion of cures for the insane in asylums in recent years was explained partly by this, that hereditary influences were every year growing stronger. Hereditary disease of all kinds was harder to cure and more likely to relapse than any accidental or primary nervous disease. The future of insanity was a part of the future of sociology. Hundreds of millions of people were to occupy this continent, and among them were to be hundreds of thousands of lunatics. The late president of the British Psychological Association predicted that if insanity were to increase in England and Wales as it has increased during the last forty years, there would be 1,250,000 lunatics upon that island in the year 1912.

But the relative increase of insanity might probably be checked somewhat in all civilized countries. First, by inventions which diminished the frictions of modern life. Types of those inventions were the telephone, the type writer, palace cars, and elevated railways in great cities. The inventions of thirty or forty years ago, the telegraph and the like, all tended to increase the friction of life. Second, by the development of the intellect at the expense of the emotions. Insanity was caused not so much by intellectual as emotional activity. Third, improved system of education, primary and university.

The whole system of mental training for the young must be and would be revolutionized. Fourth, the successful treatment of the nervous diseases and conditions that lead to insanity, as nervous exhaustion, cerebral congestions, hysteria, hypochondria, and the like. In that respect great progress was being and had been made. There was also going on improvement in mental hygiene. The better classes of the American people were to-day growing stronger and larger, and now presented some of the best specimens of physique in the world. The criticisms on the defects of the treatment of the insane applied to all countries more or less, but England had the great advantage of supervision of all asylums, public and private, by a central authority, composed partly of physicians, partly of lawyers, and partly of business men. For forty years that commission had been in operation in England, and had given satisfaction. A bill to increase the number and enlarge the powers of the New York State Board of Charities, so that it might fulfill the duties assigned to the English Lunacy Commission, was before the Legislature. It ought to be introduced not only in this State, but in other States. It would not solve all the problems of lunacy, but it would be one step in the direction of the solution of some of them. Lunacy reform would not be accomplished by leaps or jumps, but by slow increments.

During the discussion that followed the reading of the paper, there was considerable dissent expressed from some of the views contained in it, and it was voted to call a special meeting for the thorough discussion of the entire subject.

Trommer's Malt Extract.

BY W. G. MOORE, M. D.

My observation leads me to believe that the profession generally is too ready with testimonials in favor of new remedies that are put upon the market. And in many cases, I fear, it amounts to a simple indorsement of what the proprietors say of their virtues. These certificates of merit reach the profession through the columns of the medical journals, and are considered sufficient authority for their use in practice. While too much is often said

concerning the value of many remedies, my personal experience with Trommer's preparations of malt convinces me that they can not be too strongly commended.

Clinical experiment is the crucial test for establishing the therapeutic value of any remedy, and it is upon this test that my opinion of malt extract is founded.

It has been variously combined with digestives, ferruginous preparations, etc., but that with cod liver oil is perhaps its happiest combination; from the fact that in nearly all cases where the oil is indicated, the malt will be a most valuable auxiliary. Another consideration in favor of this combination is, that the disagreeable taste of the oil is masked to a great degree. It will serve my purpose better to give a few cases in which I have prescribed the malt and oil.

CASE I.—Mrs. T. came to consult me in regard to "a general break-down." She was forty-two years old, active, energetic housekeeper, with a large family to care for. In appearance, she was thin, sallow and despondent, with cough and leucorrhœa of two years' duration. A long train of dyspeptic symptoms and obstinate constipation, which she cared nothing about, "as it was *natural* with her." She had no appetite and slept badly. I suspected phthisis, but her family history was exceptionally free from this diathesis, and examination of chest showed the lungs healthy. I regarded the case as one of dyspepsia, with its innumerable symptoms and consequent innutrition. I prescribed extract of malt and cod liver oil at meal times. At the end of a week she returned much improved. I ordered the continuance of the same prescription; and, if further treatment was necessary, to call upon me.

I saw nothing more of her for a month, at the end of which time she came to my office, certainly as much improved as any one could have been in the same length of time. She stated that all of her many ills had vanished, and was inclined to think she had never known the meaning of health before. The constipation was entirely gone, her bowels moving regularly every day. She had gained flesh, was cheerful, and loud in her praises of the remedy.

CASE II.—S. E., a puny little fellow, nine months old, became a patient of mine last November. His father stated that the little boy had been through the "flint mill," and his appearance certainly corroborated the

statement, for he was a perfect type of malnutrition in infancy. He had been bottle-fed and overfed from the day of his birth. His mother stated that milk had never agreed with him, hence they had resorted to farinaceous foods of all kinds. The skin was dry, harsh and wrinkled. He ate enormously, was peevish and fretful, slept badly, and had profuse night-sweats; constipation and diarrhea alternated.

I suggested that he take half his usual amount of food during the day, and prescribed extract of malt and cod liver oil with pepsin. Within a few weeks his appearance formed a striking contrast with his former self. He has remained well up to the present time.

These cases might be multiplied, but I deem it useless, since the malt extracts are now justly coming into daily use, and like the cinchona salts will justify their high reputation in every appropriate case. In short, in all atonic conditions I consider them of the first importance. For without the medium of a good stomach, the treatment of any disease whatever is an up-hill, unsatisfactory process. And in the impaired digestion, which is ever the companion of disease, I know of nothing which comes to the rescue with such efficient aid as Trommer's preparations of malt.

Defibrinated Blood as a Substitute for Extract of Beef.

BY F. E. STEWART, PH. G., M. D., NEW YORK.

“It is the result of centuries of observation and study,” says Dr. A. H. Smith, in his article on Rectal Alimentation, “that disease is a burden imposed upon the economy, which can be sustained and ultimately thrown off only by an expenditure of vital energy, and that in increasing, and not in diminishing, vital force, are we furthering the reparative processes of nature.” Great prominence is therefore given to supporting, instead of the former reducing method of treating disease. Rapid tissue-waste demands corresponding supply. It is for this reason that restorative and building-up remedies are now so much in vogue. Cod-liver oil, because well fitted for furnishing carbon, is employed to reconstruct tissues of which carbon enters largely as a constituent, as well as for its tonic properties.

But the most exhausting waste in acute cases is of the nitrates, and there is no corresponding article to cod-liver oil for the repair of nitrogenous waste.

Meat as a food, in health, is demanded by the appetite for the supply of waste of nitrates; but in sickness an impaired stomach refuses to digest it. Attempts have therefore been made to present meat by preparation in a form for easy assimilation. Experience, however, proves that these preparations are no substitute for meat, and the numerous extracts and essences of meat flooding the market are but records of many failures.

New Remedies for January, 1880, contains an original communication from Adolph Scheppe, on extract of meat, from which we glean as follows: "*Liebig's Extract*, and the extracts from Montevideo, San Antonio (Texas), Fray Bentos (Uruguay), are made by extraction with cold water, and subsequently heating to the boiling-point. In this way all albumen coagulable by heat, gelatine and fat, are left behind. They, therefore, are not nutriments at all, but must be considered as nervous stimulants, like tea, coffee, chocolate, brandy and similar articles." Then follows an analysis, giving the composition of Liebig's Extract of Beef and a number of other beef preparations extensively advertised. In *Johnson's Fluid Beef* it is found that the want of albumen in the extract is supplied by the addition of powdered meat. There is no advantage, however, in this over beef itself as an article of food, and surely the beef is much cheaper. *Valentine's Meat Juice* "is stated to be made by partly roasting the meat, by which process the albumen coagulates, and obtaining the juice by subjecting to hydraulic pressure. . . . This extract contains no appreciable amount of albumen coagulable by heat; by the process of roasting a minute quantity is peptonized. Compared with Liebig's Extract it is very expensive, the price being double and the strength less than two-thirds." *London Essence of Beef* contains more water and less solid matter than the meat from which prepared. It, therefore, can not claim to be a condensation, and is deficient in many other points. *Mensman's Peptonized Beef* is stated by this authority to contain coagulable albumen and blood. "The presence of coagulable albumen and blood is incompatible with the process of peptonization, since both of these substances are the first to be changed in their nature by the action

of the acid necessary for the successful completion of the process." He also states that tests fail to indicate any appreciable quantity of peptone. The analysis following this statement gives but 5.76 per cent. of solids, altogether, in the preparation, while meat, freed from fat, contains 21.5 per cent. It seems, therefore, that the article is not only misnamed, but is found wanting in other respects.

Beef-tea also has long lost prestige as a dietetic. It has hardly any nutritive value. Albumen is the constituent desired from the beef; it contains the nitrogen. But albumen coagulates at 160° F.; boiling beef in water at 212° F. will not extract the albumen; it only serves to lock it up the tighter. No nutritive value, of any consequence, can, therefore, be imparted to the water in which beef is boiled. This water can not support life. Beef-tea has gone into disrepute along with the extracts and essences: stimulants—little more.

But why can not a sick man digest meat? Is it not because an impaired stomach refuses to break down the organized fiber and to set free the albumen? The raw white of an egg is easily assimilated even when milk is rejected. Why not, then, use meat before it is organized at all, namely, blood? Blood is but meat in a liquid form, every ounce containing as much solid matter as an ounce of meat. If digested and assimilated, there is no reason to suppose that it will not feed the tissues in the same manner as beef. Blood was designed by nature as tissue-food.

But it is argued that blood is disgusting to patients, and few will take the prescription. This is admitted; but the same argument holds good with cod-liver oil. Both can be disguised, however. If defibrinated blood be first dried, afterward it can be dissolved in a suitable vehicle to render it palatable. Of several such vehicles subjected to experiment, a mixture of brandy and glycerine seems best. One part of each to four parts of water, in which the desiccated blood is first dissolved, furnished a pleasant mixture. The solution can be made of the same strength as the original blood, and is easily tolerated by the stomach. About a drachm of the powder in each fluid ounce of the finished preparation should be employed.

Blood, as an article of diet, has long been used by the Germans in various ways. Patients who drink it at the abattoirs for wasting diseases are frequently greatly ben-

edited by the practice; and at the various hospitals and public institutions in New York, where it is given *per orem*, there is no hesitancy in the expression that benefit accrues from its use.

The article quaffed at the butcher's shambles is always defibrinated. This is accomplished by stirring and then removing the stringy fibrin. The fibrin in this condition, from its resemblance, is called veins by the unscientific butchers. The blood is then ready for drinking, and is said to taste much like warm fresh milk. Such a small amount of nitrogenous constituents is lost by defibrinization that the value of the blood as a nutrient is not materially lessened.

Prognosis of Valvular Lesions.

PROF. AUSTIN FLINT gives the following aphorisms at the conclusion of a clinical lecture on the above subject, published in the *Medical News and Abstract*:

1. Cardiac murmurs may represent lesions which, if unaccompanied by symptoms referable thereto, enlargement of the heart not coexisting, and the heart-sounds normal, are to be considered as innocuous. The prediction of grave consequences, under these circumstances, is unwarrantable, inasmuch as they may never occur. Such lesions do not claim medical treatment, nor any extraordinary precautions; and it is desirable that the fact of their existence be withheld from patients, if this can be done with propriety.

2. Patients with valvular lesions are liable to suffer from functional disorders of the heart, arising from causes which have no pathological connection with the lesions. It is highly important to recognize, clinically, this accidental coincidence, in order to exercise a correct judgment as to the prognosis and treatment.

3. Various morbid conditions, other than functional disorder of the heart, may be accidentally associated with valvular lesions and more or less cardiac enlargement. These associated morbid conditions may be, in a great measure, responsible for symptoms and effects which seem to denote an advanced stage of the cardiac disease, whereas the latter may occasion but little inconvenience,

provided these accessory co-operating conditions can be removed.

4. Valvular lesions, involving either obstruction or regurgitation, or both combined, and having led to considerable or even great enlargement of the heart, under favorable circumstances, as regards associated morbid conditions, are often well tolerated indefinitely. There is less reason for a hopeful prognosis, in respect of tolerance, when there is considerable aortic insufficiency, than in cases of aortic obstructive lesions, and those which occasion obstruction or regurgitation at the mitral orifice. The danger of sudden death from aortic regurgitation is lessened by coexisting mitral insufficiency.

5. In cases of orthopnea, a general dropsy dependent on mitral obstructive or regurgitant lesions and enlargement of the heart, digitalis and active hydrogogue purgation repeated from time to time, not only often afford notable relief, but there is reason to believe that life is sometimes thereby much prolonged.

Oleomargarine.

THE recently published correspondence with regard to the manufacture of the so-called oleomargarine, oleomargarine butter, butterine, or bosch butter, in the United States, has created no little disgust in England, and has been commented on by many of our daily contemporaries. The "delicacy" in question is well known to English chemists. Accurate methods for its detection and quantitative estimation are known, and there is no difficulty in obtaining convictions against tradesmen who sell it as genuine butter. Nevertheless, it is startling to read of the gigantic scale on which the manufacture has been carried on in America. One company alone, working under the patent of M. Mege, of Nancy, converted in 1876-7, as much as 500,000 lbs. of fat into the so-called butter every week. The State of New York now prohibits the sale of this article as butter; and this prohibition, coupled with the reduced price of the genuine article, has diminished the manufacture greatly. It is still, however, enormous, and there can be no doubt that much of this American sham produce finds its way, directly or indirectly, into this country. The newspaper extracts which are printed

with the official report of Consul-General Archibald, exhibit an amusing conflict of statement and exchange of incivilities between the scientific men engaged in the controversy.

On the one side oleomargarine is lauded as a most excellent and valuable article, equal in dietetic value to all, and superior to most, kinds of genuine butter. It is said to be made exclusively of the caul-fat of the ox, carefully purified and flavored with milk. Its detection, except by chemical analysis, is asserted to be impossible.

On the other hand, the defenders of the dairy allege that oleomargarine is a loathsome and dangerous article, that it is made in part, at least, from the refuse fat of the pork-packing establishments, and from "every variety of vile grease." They give startling microscopic drawings, and make even more alarming statements, as to the probability of the trichina being carried by its means. In fact, the two parties seem to vie with each other in the exaggeration of their statements. The chemical knowledge of the scientific combatants is evidently of the loosest kind, for several glaring absurdities occur in their analyses, and they do not seem in any single case to have determined either the specific gravities or the melting points of the samples they examined.

The truth in regard to the whole matter may be very simply stated. Oleomargarine, or whatever we may choose to call it, made from beef-fat, is not a noxious or dangerous substance, and there is no reason why it should not be eaten, if people, knowing what it is, choose to eat it. There is, however, an obvious risk that "vile grease" may be used by the manufacturer as a cheap substitute for caul-fat. The manufacture should, therefore, if carried on at all, be carried on under inspection. We are not inclined, however, to attach much importance to the trichina story. Certainly no English analyst would venture to certify that butterine was an adulteration dangerous to health.

On the other hand, the selling of animal fat as butter, or the mixing of it with butter, without full and intelligible description, is clearly a fraud, and as such should be punished with rigour. When properly made and described, the sale of such articles should not, in our judgment, be prohibited. The price of good butter is becom-

ing, in many places, so extravagant as to place this valuable article of food almost out of reach of the masses. —*Lancet*, of London, March 6.

MICROSCOPY.

Some "Expert" Evidence.

In the course of the recent trial of the Rev. Mr. Hayden, in Connecticut, a large number of scientific gentlemen were called upon for their testimony. Some of the evidence that was thus brought to bear is of an interesting character, not only as an indication of the value of the microscope in such cases, but also as showing to what extent we can rely upon the results of the experiments of individuals.

We will briefly review the testimony that was based upon microscopical examinations.

The microscope was employed for two purposes on this trial: for the examination of specimens of white arsenic, and for the detection of blood corpuscles.

In the study of arsenic crystals and the various kinds of arsenic in the market, Professor E. S. Dana had spent several months, and his testimony was of a satisfactory nature throughout. Samples of arsenic from different manufactories vary in character more or less, and this is also true of the products from the same factory at different times. The peculiarities are to be found in the proportionate number of crystals, amorphous particles and dust; in the size of the crystals and masses, and in the general appearance of the specimens, particularly when examined by reflected light, which shows the crystal-faces either dull or polished, or, when they have been subjected to the slow action of solvents, striated and marked.

Among the causes which prevent uniformity in the products of the same factory at different times, may be mentioned the rapidity of crystallization—which varies with the temperature—the larger crystals forming most slowly; the density of the vapor in the condensing chambers; and the presence or absence of foreign matters.

Although it is admitted that the product of a factory varies from time to time, it appears that it is possible to

distinguish the arsenic of different makers with some degree of certainty, and Professor Dana believes that he could certainly identify the brands in his possession known as "Dayton," "Garland," "Welsh" and "Dragon," by microscopical examination.

Many specimens of arsenic were examined by Professor Dana, but we will only refer to a few of them in illustration of the character of his observations. The arsenic from the Tavestock works, which he visited, contains never less than one-half its bulk of minute, but perfect, octohedral crystals. The "Garland" or glass-arsenic contains no crystals; hence, when ground it appears as an amorphous powder. By examining fourteen slides of a certain sample, one-third of it was found to consist of distinct crystals, most of them varying in size from $\frac{1}{1000}$ to $\frac{1}{300}$ of an inch, taking the maximum and minimum diameters. By reflected light the crystals showed an imperfect luster.

Another sample was made up almost exclusively of regular octohedra, which formed nine-tenths, never less than three-fourths, of the entire mass, in size about $\frac{1}{1000}$ "- $\frac{1}{2000}$ ", some as large as $\frac{1}{800}$ "- $\frac{1}{300}$ ", with smooth and brilliant surfaces.

The arsenic that was found in the stomach of the poisoned girl had a yellowish tinge, probably caused by the action of some sulphur compound, which partly changed the oxide into a sulphide. There were no dust-like fragments, or very few; the faces of the crystals showed the peculiar parallel lines and triangular markings or depressions, which are produced by solvent action.

The other gentlemen who touched upon this subject in their testimony did not differ from Professor Dana to any noticeable extent. Professor Brewer's evidence was almost identical.

In closing these remarks about arsenic, we must refer to some photographs of crystals of this substance, kindly sent to us by Dr. T. D. Williams, of Chicago. The photographs show certain characteristics of the samples quite clearly, and any person could readily distinguish the different kinds.

The testimony regarding blood corpuscles is of a less satisfactory character than that which relates to the arsenic.

Professor Wormley, of the University of Pennsylvania; Professor White, of Yale; Dr. Treadwell, of Boston; Dr.

Sanford and Dr. J. J. Woodward were the principal experts on the blood examination.

A most embarrassing error, and one which we would hardly deem possible for a microscopist to fall into, who was familiar with the appearance of blood corpuscles, was made by Professor White. He found an alga upon a stone and mistook it for blood. Further examination enabled him to correct the error; but the fact that the mistake was made shows the necessity of extreme caution in such examinations. One of the most striking statements of all was made by Dr. Treadwell. In one instance he testified, after measuring only four corpuscles (having accidentally lost the others) that ranged from $\frac{1}{2337}$ " to $\frac{1}{3368}$ " in diameter, as follows: "I am quite positive that these were human blood corpuscles, and that they did not belong to the blood of the pig, sheep, goat, horse or cat." In another place, referring to some other examinations, he stated that he had "obtained certain proof of human blood in one instance only" (this was from stains on a knife). Dr. Treadwell was asked this question: "Now, doctor, if you have five specimens of different bloods given you, will you be able to say which are human?" He replied, "Yes, if an honest and competent man prepares the slides for the microscope, and with fresh blood. Then I could give you an answer in a couple of hours." We have not space to give the admirable testimony of Dr. Sanford on this subject, which we regard as perfectly reliable and correct.

This review is based upon the reports of the trial, given by the daily New York papers, which seem to be quite reliable.

Dr. Woodward speaks for himself in the following extracts from a communication with which he has favored us.

Referring to the range and variation in the size of the corpuscles, Dr. Woodward says:

"What I actually testified as to these points, was substantially as follows: That the largest human corpuscle I had ever measured in any human individual, including all ages, was 400-millionths ($\frac{1}{2500}$) of an inch in diameter, the smallest 222-millionths ($\frac{1}{4500}$). I said, however, that I did not for a moment believe that these dimensions represented the extreme limits, for G. Hayem (*Rech. sur l'anat normale et path. du Sang*, Paris, 1878, p. 44) has recently affirmed that in chronic anæmic conditions he has measured them as large as 12 or even 14 micromillimeters (the

latter=551-millionths of an inch), and as small as 2.5, or even 2.2 micromillimeters (the latter=86-millionths of an inch). But even taking the limits I had myself measured as the extremes for healthy individuals, the difference in size between the largest and the smallest human blood corpuscle was about as great, relatively, as the difference between the shortest and the tallest adult man; and as in both cases all possible transition forms occur, I held that, by measuring ten, fifty, or a hundred, or even a much larger number of corpuscles, we are no more likely to obtain an average size that will agree with the next set of similar measurements, than we are, by measuring the height of as many men, likely to obtain an average which will agree with the average height of as many more individuals measured elsewhere. It was to this cause, chiefly, that I attributed the considerable differences between the statements as to the average size of human red corpuscles, published by the highest microscopical authorities during the last few years. I said that while many English and American microscopists continued to assume the infallibility of the alleged average size of 312-millionths ($\frac{1}{3200}$) of an inch, propounded by Gulliver in 1848, such able French microscopists as Cornil and Ranvier (*Manuel d' Histologie Pathologique*, Part II., Paris, 1873, p. 498), placed it as low as 7 micromillimeters (*i. e.*, 275-millionths, or $\frac{1}{3626}$ of an inch). The commission of the French Societe de Medecine Legale (*Annales d' Hygiene Publique*, T. 40, 1873, p. 194), composed of Messrs. Miahle, Mayet, Lefort and Cornil, which reported June 9th, 1873, placed it at 7.5 micromillimeters (*i. e.*, 295-millionths, or $\frac{1}{3389}$ of an inch), with which Hayem (p. 43 *op. cit. supra*) and other recent French authorities agree. On the other hand, J. Pelouze and E. Fremy (*Traite de Chimie, etc.*, 3^{me} ed. *entirement refondue*, t. VI., Paris, 1865, p. 492) place the average as high as $\frac{1}{102}$ of a millimeter (*i. e.*, 328-millionths, or $\frac{1}{3048}$ of an inch), while the average usually accepted in Germany, that of Welker (*Zeitscher. fur Rat. Med.*, Bd. XX., 1863, S. 237), is intermediate between the foregoing, viz: 7.74 micromillimeters (*i. e.*, 304-millionths, or $\frac{1}{3289}$ of an inch).

"As for myself, I did not pretend to make any general statement as to the true average size of the human red corpuscles, my experience being that the averages obtained by the most careful measurements of any moder-

ate number of corpuscles differ considerably. As to this I cited the figures I have published (*Amer. Jour. of Med. Sci.*, January, 1875, p. 1; and *Trans. of the Amer. Med. Ass.*, Vol. XXVII., 1876, p. 304), and added that several other averages of measurements of human blood recently made by me, with every possible precaution, also differ from each other considerably (as will be seen below).

"As for the red blood corpuscles of the dog, I testified that I had measured in this animal single corpuscles as large as the largest I have ever myself measured in human blood; others, as small as the smallest in human blood; and every possible transition between. Here, too, in taking averages I had arrived at variable results, as Gulliver himself did long ago. I explicitly stated that the general average of all the measurements that I ever recorded for the dog, was somewhat smaller than the average of all I had recorded for man. Yet, some of the averages I had found for fifty or a hundred, or even more, canine corpuscles were larger than the smaller averages obtained for human blood; indeed, occasionally rivaled the larger. I mentioned further that I agreed with L'Perier (*Bull. des Travaux de la Soc. de Pharm. de Bordeaux*. 1877, p. 282 *et seq.*), that the blood of quite young dogs (up to a month or two old) more frequently contained very large corpuscles, and gave averages equal to those obtained from human blood, than was the case with older animals. I had, since the trial commenced, mounted several slides of the blood of a pup three weeks old, in which corpuscles measuring 400-millionths ($\frac{1}{2500}$) of an inch in diameter were by no means rare. (I may add that I have these slides, and will take pleasure in showing such corpuscles to any competent microscopist.) Fifty corpuscles on one of these slides gave an average of 326-millionths of an inch; forty corpuscles on a slide from another pup of the same age, gave an average of 320-millionths of an inch; while twenty corpuscles from the blood of a full-grown dog gave an average of but 300-millionths of an inch. Measured with the same instruments, fifty corpuscles of my own blood gave an average of 324-millionths; forty from another individual gave an average of 327-millionths; twenty from another gave an average of 316-millionths. I added that all these measurements were made with a new Zeiss homogeneous immersion $\frac{1}{18}$ and a cobweb micrometer; the power being such that each division of the

micrometer-wheel equaled $\frac{1}{750000}$ of an inch. Every corpuscle in the group selected was measured, each being first brought to the center of the field for the purpose, and those corpuscles which appeared to be other than perfectly spherical, were measured in the long and short diameters, and the mean taken. In short, every known precaution was employed to secure accuracy.

"In view of all the foregoing considerations, I did not think the microscopist is warranted, in attempting to distinguish, on oath, between human and canine blood, even on preparations carefully made from fresh blood. If he makes a supposition based on the average size of fifty or a hundred corpuscles, he will no doubt often come out right, but he will also occasionally come out entirely wrong; and the difficulties in the case of corpuscles soaked out from dried stains, are of course still greater.

San Francisco Microscopical Society.

THE annual meeting of the San Francisco Microscopical Society was held at the Society's Room, 120 Sutter Street, February 5th, 1880. An unusual number of members was present, and the discussions evinced a determination to make the incoming year more interesting and beneficial to the Society and microscopy than any preceding one. The remarks and offers of assistance from members proved that the old-time energy had not left the Society's members and that its friends and workers are again coming to "the front."

INTERESTING SPECIMENS.

Notwithstanding that the principal business was the election of officers, other discussions took precedence. Mr. Hyde sent specimens of some large barnacles taken from a vessel just arrived in port, after a long voyage from Ceylon, her planks so much covered with them that a powerful tug-boat had great difficulty in bringing her in through the Golden Gate. They were left for future examination. Mr. Hanks exhibited a specimen of *Trichinæ Spiralis*, in the muscle of a boy who died with the disease (*Trichinosis*) near Salem, Oregon. It was given to Dr. S. M. Mouser, to be prepared for examination. W. W. Hanks also presented a donation of supposed diatomaceous earth, from D. W. Grant, Esq., found in Pacheco

Pass. California; also left for future examination. C. W. Banks presented the Society a manuscript catalogue (bound in four volumes) of the books in the Society's Library. At his own expense the donor employed a person for several months to complete this work. The catalogue not only contains a list of books, but of authors, and the subjects of which they treat. The thanks of the Society were expressed and tendered him for the generous contribution. The Treasurer's report showed the finances to be in fair condition, yet desiring improvement for future operations.

The Librarian reported that the Library consisted of 500 volumes of selected scientific works, and was, without dispute, the best collection of its kind in the State. The cabinet contained about 4500 slides of mounted specimens of nearly every material and almost every subject known to science. The following persons were elected officers of the Society for the ensuing year: C. Mason Kinne, President; William Morris, Vice-President; Charles H. Denison, Recording Secretary (re-elected); Chas. W. Banks, Corresponding Secretary (re-elected); G. L. Murdock, Treasurer (re-elected.)

Human Filarix and Mosquitos.

THE new investigations of Dr. Manson, communicated to the Quekett Club last week, appear to afford positive proof of a singular habit on the part of the filariæ. These microscopic worms periodically pass in and out of the circulation. Dr. Manson gives a table showing the hours of the day and night at which they are either present or absent in the blood. The worms are remarkably punctual in keeping to their appointed times. The evening inrush to the circulation commences about half-past seven, the overcrowding attaining its maximum at midnight.

Into the clinical bearings of the subject it will be time to enter when the remarkable evidence brought forward by Dr. Manson has been fully published in the Transactions of the Club. In addition to some introductory remarks by himself, the President read brief communications on the subject of filariæ from Drs. Somerville, Mortimer-Granville, J. Bancroft, J. L. Paterson, of Bahia, and others.

The meeting was well attended, and in the course of the discussion which followed, Dr. Stephen Mackenzie stated that he had at present under his care, in the London Hospital, a patient from Calcutta, with chyluria.

Although Dr. Lewis had found filariæ in the blood of this man in India, Dr. Mackenzie's efforts to find the filariæ had at present been unattended with success. The interest of the various papers was much increased by the exhibitions of drawings and specimens of the filariæ in all the stages of growth hitherto observed. Numerous infested mosquitos were also shown.—*Lancet*.

THE statement is going the rounds of the medical press that Professors Klebs and Tommasi have discovered the real cause of intermittent fever. It is a small rod-shaped fungus, which they have christened *bacillus malarie*.

These investigators spent several weeks in the *agro Romano*, which is notorious for the prevalence of intermittent fevers. Upon making microscopic examinations of the lower strata of the air and the soil, they found numerous movable, shining spores of a longish-oval shape. The fungus could be artificially generated in various kinds of soil, and when introduced under the skin of healthy dogs, caused fever which ran the regular typical course. We are awaiting further developments; in the meantime, what will the "cryptogam idiots" say to the "bacteria fanatics?"—J. B. M., in *Medical Herald*.

GLEANINGS.

HORLICK'S FOOD.—We recently used "Horlick's Food" in several cases of infant diarrhea and mal-nutrition of children, with results that prove it to be a perfect infants' food, and made in full accordance with the laws governing assimilation in early life. There are, perhaps, few conditions that call for more careful judgment than the substitution of some article of diet in cases of deficient breast-milk. Preparations are still flooding the market, claiming to be properly adapted to the infant stomach, which nevertheless contain more or less starch—a detrimental ingredient usually, and one which seldom fails to disorder the digestion, and cause wasting and diarrhea.

Horlick's Food is entirely free from starch, the flour having been changed into dextrine and grape sugar. This Food has long borne a high name, and we take pleasure in adding our testimony to that of so many physicians throughout the country as to its excellent digestive and assimilative properties. It is recommended in dyspepsia of adults, and in all diseases where digestion has been impaired.—*San Francisco Western Lancet*.

DISTINCTIONS BETWEEN CROUP AND DIPHTHERIA.—That croup and diphtheria are distinct diseases, Dr. W. H. Day (*Medical Press and Circular*) maintains, and he points out the following distinction:

We constantly meet with genuine croup; of an acute and local inflammatory character, leading to the well-known false membrane in the trachea and larynx, as described by the old-fashioned authorities. It seems impossible that we can mistake this true croup (which we have been in the habit of meeting with all our lives) for the peculiar membranous inflammation of the trachea, sometimes seen in diphtheria. It is well to glance at some remarkable points of difference in the two affections.

1. True croup is prone to attack the healthiest children, and in districts where diphtheria does not prevail.

2. True croup is apt to come on very suddenly, and in cases of recovery the general health is rapidly re-established, as compared with diphtheria.

3. In diphtheritic croup the disease is of a well-marked character, and is always accompanied by great depression and nervous symptoms.

4. Croup is a local disease; diphtheria is a constitutional affection, in which the kidneys and intestines may be involved. Croup is neither infectious nor contagious; diphtheria is both.

5. The cases that recover from diphtheritic croup are few; and the convalescence is not only very slow and tedious, but the throat affection is usually preceded by a characteristic membrane on the palate, and the prostration is always great. Partial loss of voice, fetid breath, swollen neck and glands, diminution of muscular power, paralysis of the muscles of deglutition and albuminuria, are common in diphtheria; but they are not witnessed in inflammatory croup.

6. Between croup and diphtheria there is also another

very important diagnostic difference; diphtheria generally begins in the pharynx, croup in the larynx. The false membrane found in the larynx, in cases of genuine croup, is quite different from the leathery or yellowish-gray exudation found on the tonsils, in the larynx and bronchial tubes, in cases of diphtheria. The pathological differences between croup and diphtheria are open to further contrast. In the early stage of croup there is an increase in the vascularity of the affected membrane, as in severe catarrh, with a trifling amount of inflammatory exudation. This is succeeded by fibrillation of the exuded lymph, which, with the new-formed cellular elements, becomes transformed into the characteristic *false membrane*. Its consistence varies, being in some cases tough, in others soft and amorphous, and easily removed from the mucous membrane beneath. In the larynx and upper part of the trachea, where the inflammation is most acute, the exudation is croupal or membranous, and is very characteristic of true croup, but in the lowest part of the trachea and diverging bronchi there may be nothing more than a scanty superficial layer of mucus.

It is difficult in many cases to draw any line of demarcation between the histological changes occurring in diphtheria and those of croup. In diphtheria, however, the submucous tissue usually becomes more extensively involved, so that the false membrane is much less readily removed. The circulation also often becomes so much interfered with that portions of the tissue lose their vitality and large ash-colored sloughs are formed, which, after removal, leave a considerable loss of substance.

7. If croup were identical with diphtheria, it seems to me that the operation of tracheotomy would rarely succeed; whereas it is often successful when false membrane has blocked up the tracheal tube, and has been removed from time to time after the operation.

TREATMENT OF DELIRIUM TREMENS.—Opium given in large and enormous doses, as was formerly the practice, was conclusively shown by Ware to be pernicious. Sleep is the desired object, but narcosis is not a substance therefore. It is hazardous to induce the latter. But an opiate, in small or moderate doses, is often useful. A quarter of a grain of the sulphate of morphia every four or six hours, or an equivalent of codeia or some other prepara-

tion, is the safe limitation as regards dose and intervals. Alcohol is relied on by many, but opposed by some on the ground of moral considerations. The latter are of little weight. The patient will not be likely to resume the habit which has caused the disease any the more, because alcohol may have conduced to the recovery. In the treatment, alcohol should be given in moderate quantity, and suspended when sleeping occurs. It is indicated especially when the patient is much enfeebled, and the pulse denotes cardiac weakness. The inhalation of chloroform may be tried, especially when the delusions induce extreme terror or violence of delirium. It sometimes is useful, but more frequently it fails. The attempt to produce anæsthæsia is often resisted by the patient, and the violence of the delirium is thereby increased. The hydrate of chloral is more easily employed. It sometimes acts like a charm. Proper precautions are to be observed in the use of this remedy. The bromides may be given with much less reserve. They should be fairly tried. Their effect is sometimes excellent and sometimes *nil*. Digitalis is in some cases notably efficacious; it is indicated especially when the heart's action is frequent and weak. It is unnecessary to give this remedy in doses of from half an ounce to an ounce of the tincture, as may be done with safety; half an ounce of the infusion every two or three hours will secure all the benefit to be obtained from it. Antimony is suited to a certain class of cases; namely, those in which the symptoms are violent, and the patient robust, and the action of the heart strong.—*Flint's Clinical Medicine*.

THE TREATMENT OF NEURASTHENIA, OR CHRONIC NERVOUS EXHAUSTION.—In this lecture it will not be possible to enter upon a description of the treatment adapted to special forms of neurasthenia, such as the dyspeptic, the sexual, or other varieties which might be mentioned, and are actually met with in experience; I wish at present to call your attention to the medical treatment of the uncomplicated disorder.

One of the first things needful to be accomplished by medicine is to diminish reflex excitability of the nervous system, especially of the vaso-motor division of the same. For the comfort of the patient, as well as a means for recovery, it is necessary to put out of sight, as far as can be

safely done, undue reflex excitability, especially of the cardiac and vaso-motor nervous apparatuses. Until this is done it will be impossible for the patient to rest as quietly as needful.

As to the medicinal agents which may be employed in these cases, I have found nothing that answers the purpose better than the milder bromides, associated with digitalis, in some such combination as the following:

R_x.—Sodii Bromidi, ʒ vij.
 Acid Bromohyd. (Squibb's Strong), ʒ iij.
 Tr. Digitalis, ʒ iij.
 Bismuth Subnit., ʒ iv.
 Syr. Prun. Virg., ʒ vij.—M.

S.—Shake well before using; one or two teaspoonfuls, before or after meals, in water.

In this prescription, as you will observe, the patient gets a small dose of the bromide of sodium, which is rendered more acceptable to the stomach, if not more useful, by the addition of bromohydric acid, especially in dyspeptic neurasthenias. The value of the prescription is enhanced by the addition of bismuth in some cases. If the acid is of the stronger kind, it should be given in proportionately smaller doses than the weaker. In such a mixture as I have offered I have reason to think partial decomposition of the subnitrate of bismuth occurs, so as to afford, probably, an acid bromide of sodium and of bismuth combined.—Dr. Jewell, in *Chicago Medical Gazette*.

HOW TO APPLY THE HOT WATER VAGINAL DOUCHE.—In the *Chicago Medical Gazette*, Dr. E. C. Dudley says:

The following is designed to impress the importance of strict observance of detail in the application of the douche, since in no other manner will its good effects be realized:

1. It should invariably be given with the patient lying on the back, with the shoulders low, the knees drawn up and the hips elevated on a bed-pan, so that the outlet of the vagina may be above every part of it. Then the vagina will be kept continually overflowing while the douche is being given.
2. It should be given at least twice every day, morning and evening, and generally the length of each application should not be less than twenty minutes.
3. The temperature should be as high as the patient can endure without distress. It may be increased from day to day, from 100° or 105° to 115° or 120° Fahr.
4. Its use,

in the majority of cases, should be continued for months, at least, and sometimes for two or three years. Perseverance is of prime importance.

The sitting posture is especially objectionable, for the reason that it favors pelvic congestion by force of gravity, while the dorsal position utilizes this force during the application of the douche.

A satisfactory substitute for the bed-pan may be made as follows: Place two chairs at the side of an ordinary bed, with space enough between them to admit the lower bucket; place a large pillow at the extreme side of the bed nearest the chairs, spread an ordinary rubber sheet over the pillow, so that one end of the sheet may fall into the bucket below, in the form of a trough. The douche may then be given with the patient's hips resting on the pillow and with one foot on each chair; the water will then find its way along the rubber trough into the bucket below.

RETENTION OF A PESSARY FOR THIRTY YEARS.—Dr. A. A. Smith (*N. Y. Clinical Society*) exhibited a glass pessary, which had been given him by a medical friend living out of New York, with the following history: In 1849 (thirty years ago) it was introduced into a vagina, and had not been once removed until a short time ago. The woman recently fell down-stairs, and subsequently had a bloody vaginal discharge. The physician discovered and removed the pessary, which had become well imbedded in the tissues. It was incrustated with calcareous deposit, and was introduced for uterine displacement years ago—with no advice, according to the woman's statement, regarding its subsequent removal. The pessary was concavo-convex, and about three inches in diameter, with a small opening in its center. To effect its removal, a catheter was passed through this opening and traction made upon it. Dr. Smith called attention to the duty of physicians to impress upon patients the importance of the regular removal of pessaries. Dr. Peabody said he had found a pessary, thickly coated with calcareous material, in making a *post-mortem* examination. He mentioned an instance of the removal of a pessary by Dr. E. K. Henshel, which had been introduced seventeen years before by the latter's father. Dr. Foster said he had cut out, from the vaginal tissues, a pessary which seemed to have been made of iron.

Dr. Smith mentioned the removal of one by Dr. Sayre from the uterine cavity after its retention for ten years, and alluded to another case of prolonged retention of a pessary in the vagina, which finally gave rise to an attack of peritonitis. Dr. Weir remarked that he had removed a glass pessary eight years after its introduction, and asked whether glass pessaries were better borne than others, to which there was no reply.—*N. Y. Med. Journal*.

PROOF OF DEATH.—Those timid beings who are haunted by apprehensions of being buried alive, and who make testamentary provisions against such a contingency, may now take courage, for science has supplied an infallible means of determining whether or not the vital spark has quitted the mortal frame. Electricity enables us to distinguish with absolute certainty between life and death; for, two or three hours after the stoppage of the heart, the whole of the muscles of the body have completely lost the electric excitability. When stimulated by electricity they no longer contract. If, then, when Faradism is applied to the muscles of the limbs and trunk, say five or six hours after supposed death, there be no contractile response, it may be certified with certainty that death has taken place, for no faint, nor trance, nor coma, however deep, can prevent the manifestation of electric muscular contractility. Here there is no possibility of mistake, as there certainly was when the old tests were employed. Muscular contractility under the Faradic stimulus disappears gradually after death. It is instantly diminished, but only finally extinguished in about three hours; and hence Dr. Hughes Bennett has suggested that electricity may sometimes be of use in medico-legal investigations, by affording evidence as to the time of death.—*Med. News and Circular*.

JABORANDI IN DROPSY.—The Boston *Medical and Surgical Journal*, January 15, 1880, contains a report by Dr. F. H. Cilley, of Barnet, Vt., of the following interesting case:

Mrs. H——, aged fifty-five, who had had dropsy during the last five years, with valvular disease of the heart, on June 18 had severe dyspnœa: she had passed no urine for twenty-four hours, and had general anasarca. Half-drachm doses of the fluid extract of jaborandi were given every four hours. Its effect was manifested in half an hour;

within eighteen hours she passed sixteen pints of urine; also profuse perspiration and salivation were induced. The dyspnœa was at once relieved. A second attack was relieved by the same treatment. The patient has had tonics during the last four months, and is now in good condition.

MICROCEPHALUS.—Dr. Jacobi (*N. Y. Med. Society*) presented a case of microcephalus in a child, aged three and a quarter years. The cranial measurement from ear to ear was twenty-five centimetres. The child was born with long hair and closed fontanelles; the use of the limbs was entirely wanting, and the extremities were in a state of constant flexion. The first tooth, which was already discolored, appeared in the lower jaw, at the eighteenth month. The division of microcephali into two classes was based on distinctive features of difference. The first class comprised those that presented ossification of the cranial sutures at an early period, the brain remaining normal. In the second class were included microcephali whose cranium and brain, especially at the upper and anterior aspect, showed deficient development. The case presented would belong to the first class.—*N. Y. Med. Journal*.

ATTENUATIONS.—From an old address of Prof. Armor, we clip the following, his address being textually, "Medical Science and Common Sense:"

"But the high dilutions stagger our credulity, not to say our common sense, when used as curative agents. It is difficult to believe, for instance, that a patient is cured by high dilutions of lime, when he is swallowing a thousand times as much in every drink of water he takes. Every egg he eats has a thousand times as much sulphur or phosphorous in it as a 'high dilution' homeopathist would give him. Every morsel of meat he takes contains more iron than a homeopathic dose. The very air we breathe is full of these 'attenuations' in most confusing perplexity. There may be science in these high potencies, but common sense is slow to accept them."—*Obstetric Gazette*.

QUEBRACHO IN DYSPNŒA.—According to Dr. J. B. Berhart, of London, this new drug continues to prove itself a very efficient palliative in all forms of dyspnœa. His experience of its efficacy refers only to cases in which the dyspnœa was associated with emphysema of the lungs, ather-

oma of the arteries, and degeneration of the cardiac muscles. In all these cases a teaspoonful (5.00) of the liquid extract afforded *immediate relief*. In three minutes after the administration of the drug the pulse became somewhat fuller, but not increased in frequency; the patients felt their breathing easier; the face was flushed, and a gentle perspiration appeared on the forehead. There were slight drowsiness and inclination to sleep. These symptoms, however, soon subsided, while the breathing continued to be much improved.—*Medical and Surgical Reporter*.

PRURITUS ANI.—During last summer I had a case of this kind which baffled all my endeavors, until I used the following prescription:

R_x.—Camphoræ.

Chloral Hyd., aa, 5 ss.

Ung. Petrolei, 5 vij.—*M*.

Sig.—Ointment.

This gave immediate relief, and a few applications only were needed; the itching was permanently allayed.

Repeated experiences with it since that time have so satisfied me of its efficiency, that I venture to suggest it to the readers of your valuable journal, in the hope that they also may find it a "friend in need."

JOHN H. PACKARD, M. D.

—*Medical and Surgical Reporter*.

ANÆMIC MENORRHAGIA.—*Editor Medical Brief*: If Dr. S. W. Hopkins, of Bower's Mills, Mo., will try the following prescription in his anæmic menorrhagic case, I think that he will be pleased with the result. It has never failed with me:

R_x.—Quin. Sulph., grs. xxx.

Acid Phos. Dil., 5 vi.

Elix. Iodo. Brom. Cal. Co., 5 iv.

Tr. Gentiæ Co., 5 ij.

Tr. Cinchon, q. s., 5 viii.

M.—*Sig.*—Teaspoonful in a little water four times a day.

BARTON DOZIER, M. D.

UKIAH, CAL., Jan. 13, 1880.

—*The Medical Brief*.

SIMS' SPECULUM ALWAYS AT HAND.—The index and middle fingers of the right hand may be used as a perineal retractor in place of the ordinary Sims' speculum. They may be introduced with the patient in Sims' latero-prone position,

the operator standing back of the patient, on the side of the table, in exactly the position of the assistant, who holds the speculum in the ordinary way. In this manner the cervix and vagina may be exposed almost as well as by the speculum. This method of exposing the parts may be of great use when a speculum is needed and not accessible; in the application, for instance, of the tampon in sudden hemorrhage, or in consultations at a distance, when, for reasons not anticipated, it becomes necessary to examine the pelvic organs.—*Chicago Med. Gaz.*

THE DOCTORS IN MEMPHIS, DURING THE EPIDEMIC OF YELLOW FEVER.—*N. Y. Medical Record*: In 1878 all the homeopaths—four in number—ran away when the plague came. Of the forty-six regulars, ten followed in their wake. Of the thirty-six who remained, twenty-eight were attacked with the fever and fourteen died. Eight already had had the disease and were not attacked, although on duty day and night. This fact corroborates the belief that one attack gives immunity from a second.—*Louisville Medical News*.

PRECAUTION IN ADMINISTERING IRON.—Dr. T. Grainger Stewart has discovered that when, during the administration of the tincture of chloride of iron, functional derangements of the stomach and liver arise, with furred tongue, impaired appetite, headache, etc., these symptoms rapidly disappear upon adding one-half grain of the chloride of ammonium to each minim of the tincture. He finds this combination notably useful in cases of heart disease accompanied by anæmia and debility.

ERGOT IN CATARRHAL AFFECTIONS.—Ergot is now recommended as a local remedy in catarrhal affections of the eye and throat. In chronic conjunctivitis the strength is 65 of the extract to 32 of water, a little glycerine being added to preserve the drug. In throat affections, it forms an excellent element in a gargle, or may be applied in combination with tincture of iodine. In nasal catarrh it may be applied by means of gelatin bougies.

EASTERN MEDICINE.—Dr. Norman Macdonald, in a short historical sketch of medicine, gives some very interesting facts concerning the practice of medicine among the different nations of Asia. It is a subject for much thought why one side of the world should have remained so sta-

tionary in its knowledge of anatomy and the treatment of disease, while the other has made such rapid strides forward; and it can only be accounted for by the influence of religion. The Burmese physicians descend from father to son, and their whole practice is based on manuscripts, written on palm leaf, which, though without date, are supposed to have been written about 600 B. C. Their treatment is, in most cases, very simple, and succeeds admirably in giving nature every chance to cure the patient in her own way.

Dr. Macdonald procured a loan of several of the manuscripts, and translated them. They believe in the circulation of the blood; that for six days it ascends or rises, and then ebbs for the same period; on the seventh day the currents meet, and then it is that any disease will show itself; but no medicine should be given for three days. Music, such as it is, is administered as a tonic, in all-night doses. The hopelessly diseased patient often has the satisfaction of viewing his own coffin, which, prepared beforehand, is set out for examination—a proceeding which can not fail to give consolation, especially if the coffin is ornamented.

The children are never weaned voluntarily, and are often seen at the breast until three or four years of age. Smoking is not considered a vice, both sexes using tobacco constantly, and one even sees little nude children running about with cheroots in their mouths.

The Chinese have, until recently, founded their system on that of Hoang-ti, written some four thousand years ago. A good example of their surgery can be obtained from a paper by Dr. Keen, in vol. iv. of the *Transactions of the College of Physicians of Philadelphia*, from which, it seems, they can hardly be equaled for barbarism. It seems incongruous that a nation so far advanced in art manufacture, showing them to be capable of much better education, should have remained so many years as sadly deficient in civilization generally, and medicine specially. They believe the human body to be composed of two elements, heat and moisture, which elements circulate, beginning at three o'clock in the morning at the lungs, and terminating at the end of twenty-four hours in the liver. The Japanese have very much the same system as the Chinese, from whom they seem to have borrowed their ideas.

The Hindoo physicians teach that the body is composed of 100,000 parts, in which are comprised 17,000 different canals, in which are ten species of wind. Diseases are produced by the irregular directions of these winds. The air enters the lungs during the act of respiration, being the source of all the winds, and the best preventive of these disorders is not to breathe too quickly. A simple remedy, certainly.

BOOK NOTICES.

THE MICROSCOPE AND MICROSCOPICAL TECHNOLOGY: A Text-Book for Physicians and Students. By Heinrich Frey, Professor of Medicine in the University of Zurich. Translated and Edited by George R. Cutter, M. D., Surgeon New York Eye and Ear Infirmary, etc. 388 Engravings on Wood. Second Edition. 8vo. Pp. 660. New York: Wm. Wood & Co. Cincinnati: R. Clarke & Co. Price, \$6.00.

This work has undergone a thorough revision and has been greatly enlarged. If not before, it will certainly now, rank among works of the highest standard devoted to the department of which it treats. This is the second edition which has been called for in this country. In Germany there have been some five or six editions published; and, as the translator very correctly remarks, a copy is always found on the table of those microscopists who are able to read it in the original language.

The work is divided into twenty-two sections or chapters. The first section is devoted to the "Theory of the Microscope." The greater part of this section is identical with what is found in the Natural Philosophies of academies in regard to the laws of light passing from a rarer into a denser medium, its refraction and reflection, the nature of lenses, etc., and could, therefore, very well have been omitted. But as the works of Carpenter and other microscopical writers treat these subjects, it seems as if a chapter or so must be devoted to them for the completeness of the work.

The other sections, up to and including the tenth, are devoted to a description of the microscopes of the different European makers, accessory apparatus, preparation and mounting of objects, etc. Our author seems not to

have much knowledge of the instruments of American and English makers, and therefore he has not much to say in regard to them. The translator has, however, to some extent endeavored to make up the deficiency. But even he does not seem to have a very thorough acquaintance of the capabilities of the objectives of high angle of aperture which are now made by Tolles, Spencer, Powell and Lealand, and others. It is queer, but it is nevertheless true, that not a single work has as yet been published that approaches at all near to describing the advanced microscope of the present time, or gives at all a correct account of the wonderful capabilities of the finest made objectives. Of course the microscope is for the purpose of opening up to us a world otherwise unknown, and therefore is only secondary. But, while this is true, it nevertheless is worthy of deep study itself; and we consider it unfortunate that no work has, as yet, been published that unfolds its truly wonderful powers when constructed skillfully, in accordance with our present advanced knowledge of the laws of light. But we are now only mentioning the wants of the microscopist skilled in optics and who studies the instrument as a scientific result.

But as a working microscopist our author can not be excelled, nor is his book surpassed in showing what the microscope has revealed in physiology and pathology. In the eleventh section the blood, lymph, chyle, mucus and pus are treated, and we have a most interesting exposition made of them. In the next section follows the consideration of epithelium, hair and nails; and in the subsequent ones all the various tissues of the body are accurately and interestingly described.

THE PRINCIPLES AND PRACTICE OF GYNECOLOGY. By Thomas Addis Emmet, M. D., Surgeon to the Woman's Hospital of the State of New York, etc. Second edition, thoroughly revised. With 133 Illustrations. 8vo. Pp. 575. Philadelphia: Henry C. Lea. Cincinnati: R. Clarke & Co. Price, \$5.00.

Probably there is no department in medicine in which there is so much literature as in that of diseases of women. Nevertheless there continues to be room for a good work—one having original features, containing the results of the observations and experiences of a learned, skillful phy-

sician, with deductions from his own train of reasoning, and from his study of those of others. Such an one tends to enlarge the scope of knowledge and to add to the progress of medicine, even if it does not disclose any actual new discoveries. That the work before us is a valuable addition to the already large amount of gynecological literature is evident from the fact that in less than a year from the publication of the first edition a second one is called. A book attended with so rapid a sale must certainly be regarded as possessing very considerable merits.

In attempting to ascertain and formulate the laws which apply to diseases, and to analyze the results of treatment, the author has compressed numerous histories and facts into a number of statistical tables, which present in brief space, information that hundreds of pages would scarcely have sufficed to contain in detail. Their parallel, he says, it is believed is not to be found in the whole range of gynecological literature; and if they unfold to others, he states, what he has aimed to put in them, he will feel himself compensated for the labor they have involved.

We are confident that any physician who adds this work to his library, however many works he may already have on the same subject, will feel that he has made a valuable addition to it.

HEADACHES: THEIR NATURE, CAUSES AND TREATMENT. By Wm. Henry Day, M. D., Member of the Royal College of Physicians, London, etc. Third Edition, with Illustrations. 12mo. Pp.-317. Philadelphia: Lindsay & Blakiston. Cincinnati: Peter G. Thomson. Price, \$2.00.

Headache is the commonest of affections, and, at the same time, frequently produces the most intense suffering. Some individuals seem to be martyrs to it, and oftentimes, suffer so much with it that life actually becomes a burden. It is an affection that frequently gives the practitioner a great deal of annoyance in its treatment—for he so often prescribes without giving relief, or, if he does, it is of a very temporary character.

We feel sure that every physician will eagerly seek for a work that will probably render him assistance in the treatment of such an affection as headache. The work

before us is small, and its contents, therefore, easily mastered. It contains sixteen chapters, in which are given pretty full descriptions of the various kinds of headache. The first chapter describes the headache of cerebral anemia; the second, of cerebral hyperemia; the third, sympathetic headache; the fourth, dyspeptic or bilious headache; the fifth, congestive headache. Other chapters treat of headache from exhaustion, or from some peculiar change in the cerebral tissue, nervous headache, nervo-hyperemic, toxemic, rheumatic, organic or structural, headache from affections of the peritoneum, headache of advanced life, etc.

The work will be found an exceedingly useful one indeed. Much valuable information can be obtained from it in the treatment of a class of affections that the physician is called upon almost daily to prescribe for, and in which all "set" prescriptions almost invariably fail to give relief.

OUR HOMES. By Henry Hartshorne, A. M., M. D. Formerly Professor of Hygiene in the University of Pennsylvania. 18mo. Pp. 149. Philadelphia: Presley Blakiston. Cincinnati: R. Clarke & Co. Price, 50 cents.

This is the ninth of the series of American Health Primers. As we have before stated they are designed both for physicians and laymen. They are written from an American standpoint, with especial reference to our climate, sanitary legislation and modes of life. The subjects selected are of vital and practical importance.

The little work before us is to give information how homes should be constructed in order to be healthy and comfortable. Therefore we have described what their situation ought to be and how built. Then follow chapters on light, warmth, ventilation, water supply, drainage, disinfection, population, workingmen's homes. The information will be found large and valuable. The amount of ignorance displayed in the erection of habitations is very great indeed, and is the cause of a vast amount of disease.

LECTURES ON THE HUMAN EYE, IN ITS NORMAL AND PATHOLOGICAL CONDITIONS. By Adolf Alt, M. D., Lecturer on Ophthalmology and Otology in the Trinity Medical School, Toronto, Canada. With 95 illustrations by the

author. 8vo. Pp. 208. New York: G. P. Putnam's Sons. Cincinnati: R. Clarke & Co.

A great many works have recently been issued on diseases of the eye, and one would be inclined to suppose that there was not need of any more books until further advance had been made in the knowledge of those affections. But this work differs from its predecessors, in that more attention is given in it to pathology. The author is a microscopist, and consequently has himself investigated, confirming, in some instances, the investigations of others, in others correcting them, and in others making discoveries himself. It is a pleasure, in studying a work, to follow up an original investigation. All of the illustrations are drawn from his own specimens, and he has copied only what he has really seen.

THE HAIR: ITS GROWTH, CARE, DISEASES AND TREATMENT.
By C. Henri Leonard, M. A., M. D., Professor of Diseases of Women in the Michigan College of Medicine.
Illustrated by 116 Engravings. 12mo. Pp. 316. Detroit: C. Henri Leonard. Cincinnati: R. Clarke & Co. Price, \$2.00.

We feel quite sure that this will become quite a popular work in the profession. The hair is an adornment of the person that is prized more or less by every one; and with the female sex "a splendid head of hair" is a source of the greatest pride. A pretty woman would almost as soon lose her hand as to lose her beautiful hair.

There is no part of the body more liable to affections of different kinds than the hair. With very many it is liable to turn prematurely gray; with thousands it falls out and they become bald. Scarcely a day passes by that the busy practitioner is not consulted by some of his patrons in regard to their hair; and whatever may be the affection, in nine cases out of ten, the prescription made fails to relieve.

The work before us is full in its information in regard to the hair. At first it gives a minute description of it and the structure of the scalp physiologically, and then proceeds to the treatment of the various diseases of the hair. The author has given the subject very profound consideration, and the information presented is very great,

and will prove very valuable to the physician who is called upon often to treat these affections. We very cordially recommend the work.

EDITORIAL.

THE MEDICAL NEWS.—THE MEDICAL NEWS now takes a position among the old journals. From the time the first number was issued (January 1, 1868) to the present time, it has been regularly published—not failing in a single issue. We remember with how much trepidation the first number was sent out, and how apprehensive we were that the undertaking of establishing a new medical journal would be a failure. Many enterprises of the kind had failed. Of the numerous journals that were being published, scarcely any were more than two or three years old. We were rejoiced, however, at the favor with which our new journal was received. A goodly number responded immediately to our request for subscriptions with *material* aid, and ever since have responses been sent us with words of approval and hearty congratulations.

We desire now very much to largely increase our circulation. We wish, if possible, before the year closes, to double it. Will not each one of our present subscribers use a little exertion and send us one or more new subscribers? To any one who will send us the name of a *new* subscriber and four dollars in money, we will send, for a year, either one of the following magazines: *Harper's Monthly*, *Lippincott's Magazine*, *Scribner's Monthly*, *Atlantic Monthly*, *Harper's Weekly*, *Harper's Bazar*: or for five dollars we will send, for a year, without cost, *The Popular Science Monthly*, the journal of the highest order published in this country—five dollars is the publishers' price, *per annum*, for this splendid monthly.

Physicians, who are not subscribers, receiving a copy of the MEDICAL NEWS, should either return it with their names plainly written upon it, or inclose to us the subscription price.

NUTRITIVE ELEMENTS.—It had been our intention this month to have presented to our readers an article treating at some length in regard to some of the nutritive ele-

ments which make up the nutrition of the body; but our time has been so occupied that we have found it quite impossible. We can only allude to the intention, making a few remarks only on the subject, and defer the accomplishment of the purpose fully to a more convenient time.

We will say that our purpose of presenting to our readers some facts concerning nutrition was formed from reading the following extract from a paper by Dr. W. A. Hammond, of New York:

I have seen a great many cases in which individuals have had ordinary food, have been well fed in fact, in the ordinary acceptance of the term, and who have suffered from such a combination of symptoms as is regarded by physicians as being due to a deficiency of the phosphates, and which symptoms disappeared when such phosphates were directly given to them. There is not a day in my life that I do not prescribe phosphates to some one or more of my patients; and I believe that if the ordinary food contains a due proportion of phosphates, that such diseases would be very much less common; and there is a condition of the system which scarcely reaches the point of disease, but which, nevertheless, is very far from being a state of good health, and which is very easily cured by the administration of phosphates. As general authorities for the statement I have made I will mention Liebig, Chossat, Boussingault, Smith on Foods, Pereira on Diet, and I may say nearly every physiological writer on alimentation and diet. In fact, the necessity of phosphates as an element of the food does not admit of a doubt, and is not doubted as far as I know.

Our readers are aware of the great popularity which "Dr. Churchill's Hypophosphites" have obtained in the treatment of many affections, and they know that other preparations of hypophosphites have also acquired more or less reputation for their medicinal properties. But it should be recollected that in no part of the human system—in no tissue—are there found any hypophosphites, as such. We have phosphates, but not hypophosphites. It naturally seems to us, then, if these hypophosphites have to be changed into phosphates in the body before they can be made use of to nourish the tissues, why not employ phosphates instead of them, and not tax the system with the chemical change? This question was asked us by Mr. C. H. Phillips, while visiting his laboratory in New York, near a year ago; and we were not able to state any reason why not. The so-called syrups of the hypophosphites are underdone, incomplete phosphates, which are made into phosphates at the expense of the oxygen of other surrounding elements and the production of phosphuretted hydrogen. As we noticed in an article recently upon the subject: "It may be well to observe

that most of our chronic ailments—such as feeble nervous condition, impaired mental activity, pulmonary and digestive disorders, and especially a poor condition of the teeth—are the results of causes working slowly through many years; and one of the most apparent causes, that begins early in the years of our growth, is the absence of a due quantity of the proper kind of phosphates in our daily food.” While nutrition is going on we have the fluid pabulum passing through the living tissues by the well-known process of endosmosis. Now it is known that albuminoids penetrate membranes with great difficulty and slowness. But the phosphate of potash considerably increases the diffusive rate of albumen, and facilitates its translocation through the walls of animal cells. Under such circumstances the repairing process, in any hard-laboring organ, as for instance in the lungs, may be unequal to the wasting away by reason of a deficiency of phosphate of potash; and the lung be consumed because the reparative materials—the albuminoids—can not readily pass through the membranous cell walls.

Says Professor Liebig: “The nutritive salts of wheat are identical with those of meat, and one understands that what is true of meat must also be true for bread, and that the nutritive value of flour is less in the same proportions, as it contains less of the nutritive salts than the grain. The nutritive salts of wheat and meat are phosphates, and consist of compounds of phosphoric acid with potash, magnesia, lime and iron. The simple relation of the quantity of these substances contained in wheat and in flour, as shown by chemical analysis, will be sufficient to make obvious the difference in nutritive value of the two:

1,000 lbs. of wheat	contains	21 lbs. phosphates.
1,000 “ flour	“	5½ “ “

Professor Fordyce Barker, of New York, says:

I have occasion almost daily to prescribe the phosphates or phosphoric acid as a tonic for the restoration of exhausted nerve power, whether this exhaustion be due either to physical or mental causes which waste the phosphatic elements from the system in excess of the normal balance of waste and supply necessary to health. I prescribe phosphoric acid in that class of cases which indicate excessive inability, generally the result of impaired power, and which are properly known as nervous diseases—nervous asthenia. This disease may be manifested by feebleness of almost every function of the body, as feebleness of digestion, defective assimilation, depraved or imperfect excretion, and still more emphatically by impaired cerebration. This statement is equally applicable to the phosphates.

Mr. C. H. Phillips, of New York, whom we have mentioned, prepares a form of phosphates, which, to distinguish, he calls "Phospho-Nutritive." In this preparation the phosphorus is in the form of phosphates, in the form it should be for immediate assimilation, and does not require any chemical change in the body like the preparations of hypophosphites. In preparing it no alcoholic spirits have been made use of which irritate the mucous lining of the stomach, and hinder and disorder digestion while the nervous system is unduly stimulated.

There is another preparation made by Mr. Phillips which, while we have got to writing at much greater length than we proposed when we commenced, we will refer to; namely, "Palatable Cod Liver Oil," in combination with "Phospho-Nutritine." We were highly interested in the description of it when we were visiting Mr. P.'s laboratory at the time we have mentioned. It *mixes with water in all proportions*. One can hold in his hand a half glassful of water, or any amount of water, and pour into it a teaspoonful or tablespoonful or any other quantity and have a complete mixture, which he will find very pleasant to the taste. This is not brought about by any previous saponification of the oil, or by the presence of any alkali. But we will let Mr. Phillips himself very briefly describe the preparation, which he has done in a recent personal letter to us, and which in writing he had not the remotest idea would be put in type:

"As to our combination of Cod Liver Oil we feel we have a very important preparation, to which, perhaps, you have given little or no attention, except what very little I exhibited to you in your last visit to my office. We know that of late years there have been so many preparations of Cod Liver Oil put in the market as to make it hardly possible to enlist the attention of any physician to a new article unless it possessed unusual merits and new features. "Phillips' Palatable Cod Liver Oil, in combination with Phospho-Nutritine" (wheat phosphates), is an article wholly new in conception, and of such merit and convenience as to at once appeal to their scientific knowledge and common sense. Without the aid of alkalis, we have accomplished such a minute division of the oil that under the microscope the globules appear about the size of those in milk, and have an emulsion that is per-

fectly miscible with water and as much under your control as any tincture. Your journal being somewhat devoted to microscopy this is a point you might make—it is a pretty test, that any one can make, and it clearly demonstrates the fineness of division. The advantage of having Cod Liver Oil in a palatable and pleasant shape, which can be diluted to any extent, so as not to distress or lower the tone of the stomach, and which must necessarily be more easily assimilated, any doctor must recognize. Before you write I would suggest the following experiments: Take a teaspoonful of my Palatable Cod Liver Oil and stir well in a glass of water. Try any other emulsion under the same conditions. Test the different mixtures as to combination, palatability and appearance. Out of each take a fraction of a drop and put it under a microscope of fifty or more diameters, which will show the comparative quantity of oil, the size of the globules, and whether or no there are any soap-bubbles. If these tests do not satisfy you as to the character of our preparation we shall be greatly surprised.

“We are constantly receiving reports from M. D.’s commendatory of our Phospho-Nutritine as a distinctive preparation in cases where a tonic is required or a repairer of brain and nerve tissue, and have just received a very satisfactory communication from a physician in Albany, speaking in the highest terms from its use in his practice for vomiting in pregnancy.”

In a previous issue of the *MEDICAL NEWS* we gave a rather brief description of Mr. Phillips’ “MILK OF MAGNESIA,” so that we will not now mention its many excellent merits.

In a future article, as we have intimated, we design to write more at length in regard to the important part which the phosphates play in the economy. We can assure our readers we have not written what we have for the mere purpose of lauding the preparations of Mr. Phillips. We think what we have said bears evidence on its face that our assertion in this respect is true. Nourishing the body, by means of proper aliments, is demanding more and more attention in the profession; and it is becoming to be believed, more and more, that a very large proportion of the diseases is the result of a defective alimentation—the absence of necessary elements in the food brought about in some way or other.

THE CYSTOSCOPE.—This is an ingenious but rather complicated instrument, by means of which the bladder may be illuminated, and an optical examination made of it and the urethra. It is invented by Dr. Nitze, of Vienna, who has described it in detail in the *Wiener Med. Wochenschrift*.

The cystoscope differs from the old endoscope in the method of illumination. The light is not reflected from without, but is generated in the interior of the organ itself. Its source is a loop of platinum wire heated by a galvanic current. To avoid the injury to the parts which the heat of the loop would otherwise cause, it is kept continually cool by a stream of water running through a double system of tubes. The light emanating from the wire diffuses itself in the cystoscope through a small window of rock crystal in the side of the lantern inclosing it, and which forms the terminal bend of the endoscopic tube—the short, curved portion of the catheter. In the *urethroscope* the loop of wire, with its cooling apparatus, lies close to the external wall of the catheter, very near its internal orifice (which is cut off obliquely), and out of the axis of the tube. In the cystoscope the interior of the bladder, illuminated by the lantern, is observed through a second window, anterior to the latter in the straight portion of the catheter, by means of a prism, which acts by total internal reflection, and transmits the image to the “optical apparatus,” which occupies the rest of the anterior part of the catheter. This consists of an objective of small focal length, which forms in front of it a small real inverted image of the mucous membrane, of a lens in the middle of the tube, which converts the inverted into an upright image, and of an external eyepiece, which transmits to the observer’s eye a magnified, upright representation of the object. The lenses are so arranged as to be capable of accurate focusing. This optical apparatus is adapted equally to the cystoscope and urethroscope.

USE OF HYOSCYAMIA IN INSANITY.—Dr. John P. Gray, Superintendent of the New York State Lunatic Asylum, speaks in high terms of hyoscyamia in insanity. He stated that it had been the practice at the asylum, from time to time, to make a study of special remedies “to

determine, as far as possible, their therapeutic value and their application to the conditions of the insane." Of the action of hyoscyamia, he said: "In cases of acute mania and melancholia with frenzy, no remedy we have used has so efficiently and readily calmed the high nervous and muscular excitement, and brought about a degree of tranquillity essential to acquiescence in nourishment and rest, as a means of restoration." It was also found of great value in controlling the cerebral excitement of certain cases where there was persistent refusal of food, as it made it "reasonably easy and entirely safe to introduce the stomach-tube and administer the necessary food."

GOLDEN DAYS.—We have received six numbers of a weekly paper for boys and girls thus entitled. Each paper contains sixteen closely printed pages, filled with the most entertaining reading, with stories profusely illustrated with pictures. The whole contents are of a high order, calculated to not only please and delight, but to cultivate and instruct. In these days of dime novels and other most trashy literature, gotten up for the amusement of the young, which tends to demoralize the mind and deprave the taste, a paper like this should meet with liberal patronage, and we hope it will. Boys and girls will read, even if the matter is of an injurious character. How important, then, is it to put in their way that which will improve and cultivate. Published by John Elverson, southwest corner Eighth and Locust Streets, Philadelphia, at \$3 a year, \$1.50 for six months.

MALTINE.—This new preparation has been received with marked favor by the profession. For some time past we have been using it in our practice, and can speak from experience as to its merits. It is a most excellent nutritive tonic, and will be found most valuable in the treatment of nervous prostration, general debility and exhaustion, and also in lingering convalescence from fevers or other depressing affections. Combined with cod-liver oil it will be found highly beneficial in the treatment of pulmonary diseases, while the combination with pepsin and pancreatine is almost invaluable in the treatment of dyspepsia.—*Ed. of Canada Med. Journal.*

. **STERILITY.**—We have received a communication from Dr. John T. Booth, post-office box 25, Wyoming, Hamilton County, Ohio, requesting that physicians, at an early day, favor him with any information they may have in regard to the subject of *sterility*. He will be obliged for any papers written or printed, and especially for any items from private note-books that have never been submitted to the public. Due credit will be rendered for all kind considerations, as requested, in a paper now in course of preparation for publication.

SMALL-POX.—The *Lancet* of March 20, of present year, states that during the three years 1870–72 there died of small-pox in London 10,615 persons; during the three years 1876–78, 4,695. It says that Dr. Bridges notes the tendency of small-pox to prevail in the metropolis with increased intensity at intervals of three or four years. The epidemics of 1870–72, and of 1876–78, were no exceptions to this rule of recurrence. But nothing like them, as to virulence, has been seen since the end of the past and beginning of the present century.

INDEPENDENT PRACTITIONER.—This is the name of a new medical journal recently commenced at Baltimore, Md. It is edited by Harvey Byrd, A. M., M. D., and Basil M. Wilkerson, D. D. S., M. D. Terms, \$2 a year in advance. So far it seems to be ably conducted. We wish it success.

DR. E. S. GAILLARD is issuing his journal, the *Richmond and Louisville Medical Journal*, in New York, with the title of *Gaillard's Medical Journal*.

MARRIED.—In Cincinnati, at the residence of Mrs. M. W. Latham, No. 107 Broadway, February 10, by the Rev. G. H. Kinsolving, Dr. Wm. Judkins and Miss Nellie Anderson.

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FACTS FROM OHIO.



THE USE OF DEXTRO-QUININE IN INTERMITTENT FEVER.

Case.	Name, and sex of patient.	Age, etc.	No. paroxysms before taking.	Paroxysms after taking.	Dose and mode of exhibition.	Total amount exhibited.	Remarks, pathological and physiological phenomenon, etc.	Reported by
34	Miss D.	28	Unknown, a great many.	0	3 grs. every 3 hours.	30 grs.	Had been under treatment about four months with Cinchonidia Sulphate, which would control the paroxysms at the moment but they would invariably return. Used <i>Dextro-Quinine</i> in the same doses and there has been no return of the chills. Another case, Mrs. B., æt. 77, was unable to take Cinchonidia on account of the severe tinnitus aurium, etc. I prescribed <i>Dextro-Quinine</i> without any head symptoms with satisfactory result.	G. S. Krieger, M.D., Lebanon, O.
74	Geo. C., male. "Has used Quinine until the name of it gave him the horrors."	28 Single.	Unknown, has been suffering with almost daily paroxysms for nearly 2 years.	0	9 grs., in three doses of 3 grs. each, 3, 2, and 1 hour before the expected attacks.	9 grs.	Missed chill on first day, put him on pills containing <i>Dextro-Quinine</i> , Ferri. Acid Arsenious and Ext. Nux Vom., and has had no return of chill to date. This man in connection with the chills was down with the yellow fever in Memphis during the late scourge. He returned here and has been under my treatment ever since his return. I have used Quinine and Cinchonidia with very poor success in his case.	B. S. Chambers, M.D., Cincinnati, O.
143	Miss Smith.	27	3	0	4 grs. every 2 hours combined with ½ gr. doses of Capsicum.	16 grs.	The best word I can say for <i>Dextro-Quinine</i> is, that I have not prescribed any other anti-periodic since receiving sample of <i>Dextro-Quinine</i> . I find the action more certain when combined with Capsicum, as I also did with Sulphate of Quinine.	J. W. Lisle, M.D., Millfield, Ohio.
144	Miss Artz.	25	For 3 years more or less frequently.	1	4 grs. every 3 hrs. until 16 grs. were given, then same repeated.	32 grs.		
145	Mrs. C. Taken Quinine without any effect.	25	15	0	2 gr. pills, 2 every 2 hours.	34 grs.	Had taken quinine without any effect. Had had no return since using the <i>Dextro-Quinine</i> . Now over four months.	J. Frank Vigor, M.D., Gilead Station, Ohio.
150	Lena Rush. Had taken 15 grs. of Quinia daily without effect.	26, mother 4 children	8	0	2 gr. pill every hour till 5 were taken.	20 grs.	Paroxysm every day about 4 p.m. Cold and hot stages short, followed by very profuse sweating. Had taken Sulphate of Quinia 15 grs. per day, without any effect whatever.	A. J. Learned, M.D., Pataskala, Ohio.
178	Mr. C.C.	40	20 or more.	0	5 grs. every 3 hrs. until 30 gr. taken, then 5 gr. 3 times a day.	120 grs.	I find that it is equally as good as Quinine Sulphate, with none of the unpleasant head symptoms derived from the latter.	J. F. Heady, A.M., M.D., Springdale, Ohio.
179	Mr. H.O.	42	Two, but often had them previously.	0	5 grs. every hr., till 30 grs. were given.	30 grs.	Perfectly satisfactory. Have obtained only good results in the cases in which I have used the <i>Dextro-Quinine</i> .	
192	Jas. L.	26	About 30.	0	15 grs., in 3 powders, 3, 2, and 1 hr. before the chill.	15 grs.	In all these cases I began treatment with Cathartic, then after chill was checked put them on tonics, and on 7th, 14th and 21st days, I repeated the dose in lessened quantities. I very seldom have any trouble with return of chill.	
193	Annie C.	17	3	0	12 grs., in 4 pills, 2 at night and 2 in morning.	12 grs.	I sent you report of the 1st case I had, Geo. Caldwell, which was the worst case I have ever seen. He has never had any return. I have used it in a large number of cases with about the same average result as when I used the Sulph. of Quinine. I cannot say that I see much difference between <i>Dextro-Quinine</i> and Sulphate of Quinine. I send 3 reports of cases from my own O. D. P. list. Of course, cases of this kind are usually of the very worst type. I send from my list, cases Nos. 18, 33, and 48.	B. S. Chambers, M.D., District Physician, Newport, Ky.
194	Jas. J., col'd.	38	About 30.	0	20 grs., in 4 pills, 4, 3, 2 and 1 hour before chill time.	20 grs.		

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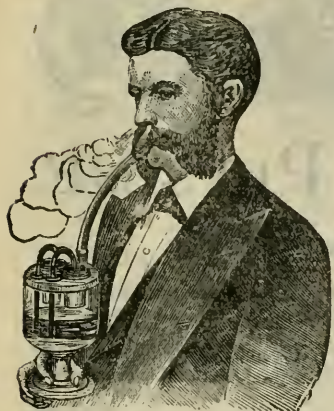
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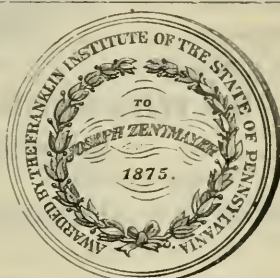
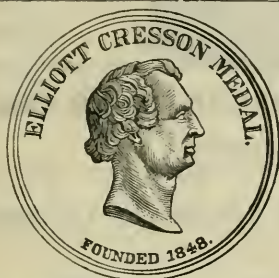
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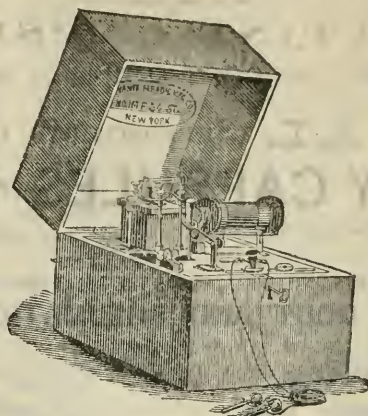
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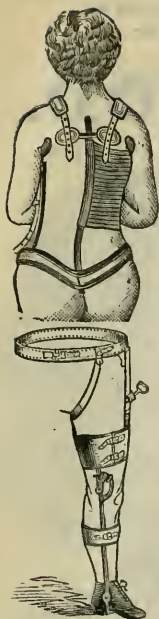
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180	GRAINS	HYPOPHOSPHITE	OF LIME.
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Combined with the purest Sherry Wine and tonics. Dose—Dessert or tablespoonful before each meal.

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Each tablespoonful contains 10 grains Hypophosphite Lime and 5 grains each of Soda and Potash. It is pleasant of taste, gently stimulating in effect, aids digestion, increases the appetite, and is retained by the most delicate stomach. Dose—teaspoonful to dessert-spoonful.

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Speaking of HORLICK'S FOOD: "Being carefully prepared, according to Liebig's Formula, by Chemists fully competent, it possesses certain advantages, such as quick and easy preparation and a pleasant flavor, and is therefore highly esteemed by those who have used it." [Page 58 of the fourth edition of a Treatise on Diseases of Infancy and Childhood. By J. Lewis Smith, M. D., etc.—1879] Also, speaking in another place [page 647] of artificial food for infants, especially those suffering from intestinal catarrh, he says: "I prefer Liebig's, especially **HORLICK'S** preparation of it."

Report from Bellevue Hospital, New York.

In *The Hospital Gazette* for February 6th, 1879 [page 108] Dr. E. Hochheimer makes a report from BELLEVUE HOSPITAL of a case of Infantile Paralysis, which was followed by an exhausting diarrhoea.—Speaking of the treatment, he says: "Her condition continued unchanged for the next three weeks; she was put upon a diet consisting principally of milk, but the diarrhoea persisted in spite of opiates and astringents."

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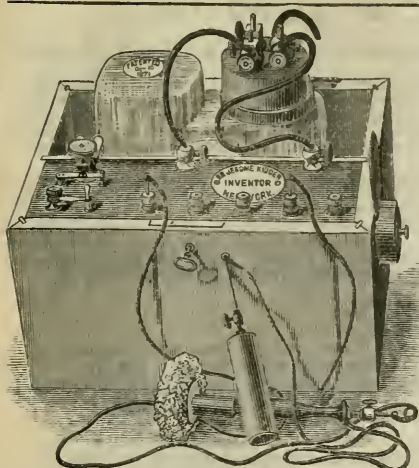
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THE REGULAR SESSION will begin on Wednesday, October 1, 1879, and end about the 1st of March, 1880. During this Session, in addition to four didactic lectures on every week-day except Saturday, two or three hours are daily allotted to clinical instruction.

THE SPRING SESSION consists chiefly of recitations from Text-Books. This Session begins on the 1st of March and continues until the 1st of June. During this Session, daily recitations in all the departments are held by a corps of examiners appointed by the Faculty. Short courses of lectures are given on special subjects, and regular clinics are held in the Hospital and in the College building.

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
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PERFECT, PERMANENT, PALATABLE.

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FORMULA.—50 per cent. of pure Cod Liver Oil, 6 grs. of the Hypophosphite of Lime, and 3 grs. of the Hypophosphite of Soda to a fluid ounce.

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I have been using Scott's Emulsion of Cod Liver Oil with Hypophosphites in my practice for several years, with more satisfaction growing out of success than any other preparation I have ever used. I commend it to my classes in the University of Louisville, as much the best article of Cod Liver Oil.

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I inclose herewith my analysis of your EXTRACT OF MALT: Malt Sugar (Glucose), 46 1; Dextrine, Hop-bitter, Extractive Matter, 23 6; Albuminous Matter (Diasiase), 2.466; Ash (Phosphates), 1.712; Alkalies, .377; Water, 25.7. Total, 99.958.

In comparing the above analysis with that of the Extract of Malt of the German Pharmacopœia, as given by Hager, that has been so generally received by the profession, I find it to substantially agree with that article.

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This preparation is highly recommended by physicians as an effective agent for the restoration of delicate and exhausted constitutions. It is very nutritious, being rich in both muscle and fat producing materials.

By American and foreign authorities the MALT EXTRACT is extolled in the treatment of impaired, difficult and "irritable" digestion, loss of appetite, sick headache, chronic diarrhea, cough, bronchitis, asthma, consumption, the debility of females and of the aged, in retarded convalescence from exhausting diseases, and all depressing maladies. It is often borne by the stomach when every kind of food is rejected.

In addition to the Extract of Malt with Hops, the attention of physicians is invited to the following combinations:

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Each dose contains four grains of the Pyrophosphate of Iron.

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Each dose contains four grains of the Citrate of Iron and Quinia.

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Trommer's Extract of Malt,
With Cod Liver Oil and Iodide of Iron.

Consisting of equal parts of Extract of Malt and Cod Liver Oil, Iodide of Iron being added in the proportion of one grain to the dose.

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Trommer's Extract of Malt,
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Consisting of equal parts of Extract of Malt and the best Cod Liver Oil.

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Trommer's Extract of Malt,
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Each dose contains one grain each of the Iodides of Iron and Manganese.

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Trommer's Extract of Malt,
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Each dose contains 2 grains Hypophosphite of Lime; $2\frac{1}{2}$ grains Hypophosphite of Soda, and 1 grain each of the Hypophosphites of Potassa and Iron.

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Trommer's Extract of Malt,
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Each dose contains six and one-fourth grains of Pep-sin and two and one-eighth minims of Hydrochloric Acid.

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MALTINE "contains, unimpaired and in a highly concentrated form, the whole of the valuable materials which it is possible to extract from either malted Wheat, malted Oats, or malted Barley."

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OUR experience of many years as Manufacturing Pharmacists has brought us in daily contact with those engaged in prescribing, and has afforded us advantages for study, experiment and practical development, which have engaged our most critical attention in perfecting new and more efficacious agents for physicians' use in the control and subjection of disease; and we assure the Medical Profession that in no instance shall we attempt to arrest their attention except we have some production worthy of their highest consideration.

Before we began the manufacture of MALTINE, we analyzed the various Extracts of Malt manufactured in this country and Europe. We found that many of them had a burnt taste and smell, and a dark appearance, and were deficient in many essential elements that they should contain, owing to the excessive heat employed. Most of these preparations had probably been evaporated, or the grain mashed, at a temperature of 212° Fahr., and consequently the Albuminoids and Diastase were almost entirely destroyed, and the other nutritive properties much impaired. This can not be otherwise when the German formula is followed, for it directs that the extract shall be heated to 212° Fahr. (*see formula for Malt Extracts, German Pharmacopœia, fol. 124*). This led us to a series of experiments to ascertain whether a preparation could not be produced that would contain the nutritive properties of the grain unimpaired. Further research developed the fact that malted Barley was deficient in most of the essential elements of nutrition, with the exception of mineral matters, or bone producers

These experiments led us to the production of an extract from malted Barley, Wheat and Oats, which we call MALTINE, for brevity, and which contains all the elements of nutrition in the proportions required by the human organism, unimpaired by heat; our evaporation being conducted *in vacuo* at 110° Fahr.

MALTINE is rapidly taking the place of Extracts of Malt in Europe as well as in this country, and will unquestionably be used far more extensively throughout the world by the Medical Profession.

We are confident that a practical test of MALTINE will convince any practitioner that we justly make the following claims, viz:

First: That Wheat and Oats are much richer in alimentary principles than Barley, and that it is only in a combination of these cereals, in the proper proportions, that a perfect preparation can be produced.

Second: That our process for extracting the nutritive elements unimpaired is far superior to the German.

Third: That MALTINE possesses three times the nutritive and therapeutical value of any Extract of Malt in the market.

Fourth: That it is the only perfect food remedy ever offered to the Medical Profession.

From our experience during the past fifteen years, in closely watching the success of old and new remedies among the Medical Profession, we feel the utmost confidence in claiming that MALTINE and its compounds can be used with more positive results than any preparation now known, in cases of Dyspepsia attended with general Debility, Imperfect Nutrition and Deficient Lactation; Affections of the Lungs and Throat, such as Phthisis, Coughs, Colds, Hoarseness, Irritation of the Mucous Membranes, and Difficult Expectoration; Cholera Infantum and Wasting Diseases of Children and Adults; Convalescence from Fevers, General and Nervous Debility, and whenever it is necessary to increase the vital forces and build up the system.

MALTINE, and all productions of our house, are kept strictly and invariably in the hands of the Medical Profession.

We guarantee that MALTINE will keep perfectly in any climate, and at any season of the year. *Faithfully yours,*

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PROFESSIONAL OPINIONS OF MALTINE.

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We have realized decided benefit in a large number of cases treated in the City Hospital, and at the Dispensary connected with it, from your preparations of Maltine. Many persons will welcome them as most efficacious and palatable substitutes for Cod Liver Oil, and as covering a wider range of application.

S. WESLEY CHAMBERS, M.D., Resident Physician, City Hospital.

BALTIMORE, MD., Jan. 20th, 1879.

We take pleasure in saying in behalf of your preparations of Maltine, that they have fully come up to the measure of your representations. They have given us the greatest satisfaction. We have used them extensively to the great benefit of our patients.

DAVID STREETT, M D., Resident Physician, Maternite Hospital.

LOUISVILLE, KY., July 11th, 1879.

I am using Maltine with Pepsin and Pancreatine in my family, and am exceedingly pleased with its results. Professor Flint, of your city, whom I highly esteem, has been consulted about the case and knows the solicitude I have had about it. The above preparation in Sherry, after meals, has been productive of great benefit. I am using it in the City Marine Hospital, the Kentucky Infirmary for Women and Children, and in my private practice, and am much pleased with the results obtained.

T. P. SATTERWHITE, M.D.

JACKSON, MICH., October, 1878.

In its superiority to the Extract of Malt prepared from Barley alone, I consider Maltine to be all that is claimed for it, and prize it as a very valuable addition to the list of tonic and nutritive agents.

C. H. LEWIS, M.D.

ST CHARLES, MINN., March 23rd, 1879.

In conditions of Anæmia, in convalescence from severe and protracted disease, especially in chronic cases where there is great general debility, and in the enfeebled condition of aged persons, I have learned to rely on Maltine, nor in any instance have I been disappointed of good results, therein forming a marked contrast, so far as my experience goes, to preparations of Malt, which I had used previously, and had abandoned the use of them when my attention was called to Maltine.

C. R. J. KELLAM, M.D.

36 WEYMOUTH STREET, PORTLAND PLACE, LONDON, }
May 30th, 1879. }

I am ordering your Maltine very largely

LEONOX BROWN, F.R.C.S., Sen. Surg., Gentl Throat and Ear Hosp., etc.

75 LEVER STREET, PICCADILLY, MANCHESTER, }
January 16th, 1879 }

I have used your Maltine pretty extensively since its introduction, and have found it exceedingly useful; particularly in cases where Cod Liver Oil has not agreed, have I found the Maltine, with Beef and Iron, most valuable.

J. SHEPHERD FLETCHER, M D, M R C S.

EDDIE CROSS HOUSE ROSS March 8th, 1879.

I am very pleased to bear testimony to the great value of Maltine. I prescribe it extensively and with the best results, especially in anæmic conditions of the system with much stomach irritability, which it seems to allay very speedily.

J. W. NORMAN, M.B., M.R.C.S.

CHEMICAL REPORTS ON MALTINE.

BY R. OGDEN DOREMUS, M. D., LL.D.

Professor of Chemistry and Toxicology, Bellevue Hospital Medical College;
Professor of Chemistry and Physics, College of the City of New York.

NEW YORK, April 17th, 1879.

I have visited the works at Cresskill, on the Hudson, where MALTINE is prepared, and spent portions of two days in witnessing the chemical processes for making the same. I was particularly impressed with the thorough cleanliness observed, as well as with the completeness of the apparatus employed for accomplishing the desired result—from the first treatment of the grains, to the concentration of the liquid product by evaporation in vacuo. The operation is effective in extracting the whole of the nutritive constituents of the grains of malted Barley, Wheat and Oats, with but a slight residue, and is the most complete method yet devised, with which I am acquainted, for accomplishing this object.

MALTINE is superior in therapeutic and nutritive value to any Extract of Malt made from Barley alone, or to any other preparation of any one variety of grain. From a chemical and medical standpoint, I can not commend too highly to my professional brethren this unique and compact variety of vegetable diet and remedial agent, nutritive to every tissue of the body, from bone to brain.

Respectfully,

R. OGDEN DOREMUS.

BY PROF. JOHN ATTFIELD, F.C.S.

Professor of Practical Chemistry to the Pharmaceutical Society of Great Britain;
Author of a Manual of General Medical and Pharmaceutical Chemistry.

LONDON, 17 BLOOMSBURY SQUARE, W. C. }

October 28th, 1878. }

To Messrs. Reed & Carnrick :

GENTLEMEN:—I have analyzed the extract of malted Wheat, malted Oats and malted Barley, which you term MALTINE. I have also prepared, myself, some extract from these three malted cereals, and have similarly analyzed it, and may state at once that it corresponds in every respect with the Maltine made by myself. As regards the various Malt Extracts in the market, I may remark that your MALTINE belongs to the non-alcoholic class, and is far richer, not only in the directly nutritious materials, but in the farina digesting Diastase. In comparison, your MALTINE is about ten times as valuable, as a flesh former; from five to ten times as valuable, as a heat producer; and at least five times as valuable, as a starch digesting agent. It contains, unimpaired and in a highly concentrated form, the whole of the valuable materials which it is possible to extract from either malted Wheat, malted Oats or malted Barley.

Yours faithfully,

JOHN ATTFIELD.

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